

# INSIDE DOPE

Learn to live and laugh—  
Thus delay your epitaph

By **GEORGE F. TAUBENECK**

Stories of the Week  
Parlor Games  
From Our Mailbag

## Stories of the Week

One of America's better refrigeration dealers has a brother-in-law scientist who works on the Atom Bomb Project.

"Honestly, Joe," our dealer-friend probed, "can your fantastic weapons destroy the world?"

"Perhaps. But don't worry. After all, our planet is a minor speck of dust in the universe."

There are camera "bugs" everywhere; and amateur photography is a hobby which sometimes borders on paranoia, as the writer can testify. Take the hobbyist who announced he was going to take a picture of a total moon eclipse.

"How you gonna get it on film?" dubbed a friend.

"Oh, that's easy. I got me a flash bulb attachment."

## Parlor Games

Use the following words in a sentence:

*Pencil.*

"If I don't wear suspenders my pencil fall down."

*Samovar.*

"Yes, samovar best people belong to this club."

*Satiate.*

"They satiate four chocolate sundaes for lunch."

*Osmosis.*

"Where osmosis when the lights went out?"

*Eurippides.*

"Valet, if Eurippides pants I killa you."

*Da Vinci.*

"Si, senor, Da Vinci blow lak hurricane."

*Ostend and Innuendo.*

"Madame, would you mind if Ostend here and look innuendo?"

## From Our Mailbag

Union Electric Co. of Missouri  
St. Louis, Mo.

Editor:

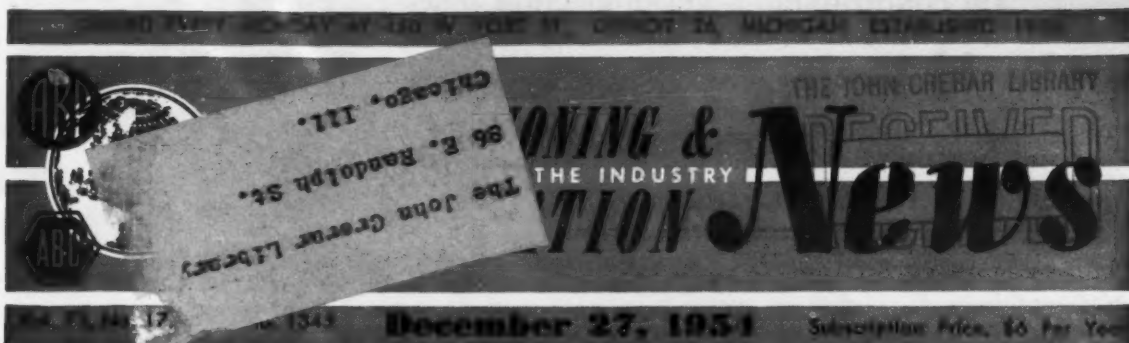
I have long been an admirer not only of your "Inside Dope" but also of AIR CONDITIONING & REFRIGERATION NEWS which I think is one of the most effective trade journals in existence.

You can understand my surprise at the statement near the end of a very fine editorial on Page 10 of the Nov. 1st issue:

"Public utilities should advance the pace of residential installations by providing polyphase transformers at no extra cost. Also the slow-moving Underwriters Laboratory should 'get on the ball' with deserved approvals of real good mechanisms."

I will not undertake to attempt a discussion of fundamental economics of either the publishing business or the utility business, but I would like to point out to you or the author of the editorial a few things about electrical distribution that this statement indicates he overlooked. All costs incurred in supplying service to a customer must be recovered. The recovery must be in a nondiscriminatory fashion. It is an obligation of an electric public utility to so construct and operate its facilities as to provide electric service at the lowest cost consistent with quality and continuity of service and with financial fairness to its customers, employees, and security holders as

(Concluded on Page 7, Col. 4)



Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office. Copyright 1954, by Business News Publishing Co.

## NARDA Program Set for Chicago Meeting Jan. 9-11

CHICAGO—Several leaders of the appliance and radio-television industry are scheduled to address the 1955 annual convention of the National Appliance & Radio-TV Dealers Association at the Conrad Hilton hotel in Chicago Jan. 9-11, NARDA has announced.

Dan Packard of Kelvinator will deliver the keynote address on the theme "What's Ahead for the Dealer in 1955?"

James H. Carmine, president of Philco, will address Tuesday's luncheon session on "Let's All Think Bigger."

George H. Meilinger, major appliance sales manager of Westinghouse, will give the Monday luncheon address on "The Future of the Appliance Industry."

Other manufacturing leaders scheduled to participate in the program are:

A. E. Cascino, director of mar-

(Concluded on Back Page, Col. 1)

## Schwanhausser Is Pres. Of Worthington, Ramsey Named Board Chairman

HARRISON, N. J.—In changes in company management announced by the board of directors of Worthington Corp., Hobart C. Ramsey, president, will become chairman of the board and Edwin J. Schwanhausser, executive vice president and member of the board, will become president.

Ramsey will succeed Howard Bruce, who has been elected chairman of the executive committee.

(Concluded on Page 4, Col. 2)

## 'Wet' Air Conditioning System Mfrs. Plan 'Surprise' Products

NEW YORK CITY—Manufacturers of the so-called "wet" air conditioning systems are apparently preparing a surprise for the field in the form of some new products designed particularly for year-round air conditioning work.

At the recent meeting of the Institute of Boiler & Radiator Manufacturers, Robert S. Waters, head of the institute and chairman of National Radiator Co., predicted

(Concluded on Back Page, Col. 2)

## Exhibitors Move Around At Furniture Marts

CHICAGO—There has been some shifting around of tenancy at The American Furniture Mart and the Merchandise Mart, which will house the exhibits at the Winter Home Furnishings Market opening Jan. 3.

Westinghouse Electric Corp. will open new "national" showrooms for appliances, TV, and radio in space 11-122 of the Merchandise Mart, the space formerly occupied by "Good Design."

Tenant moves in the Merch-

(Concluded on Page 4, Col. 2)

## Philco Says Dealers Were Dropped for Inefficiency Only

PHILADELPHIA—Philco Corp. officials said last week that "if any dealers are being cut off by Philco distributors, it is solely because they have not been giving proper and adequate service on Philco products."

It had been rumored in the industry that a number of Philco dealers, particularly those who had been tagged with the "discount house" label, had been dropped.

Last week the U. S. Department of Justice filed a civil anti-trust lawsuit against Philco Corp., charging the firm with using illegal restrictions on wholesalers and retailers, particularly in the matter of the company's attempts to have Philco products sold only through authorized Philco dealers.

Since the institution of the suit, the National Appliance and Radio-TV Dealers Association (NARDA) has lauded the Philco distributor territorial agreements. A. W. Bernsohn, managing director, stating that:

(Concluded on Back Page, Col. 2)

## Tenney Joins Admiral as Refrigeration Sales Head

CHICAGO—Appointment of Jack Tenney as sales manager of the refrigeration division of Admiral Corp. has been announced by W. C. Johnson, vice president-sales.

Tenney replaces Joseph P. Halpin, who has resigned.

Tenney was national sales manager of the Norge refrigeration division of Borg-Warner Corp. before joining Admiral. He had been with that company since 1930, also serving as eastern regional manager and western sales manager. He attended Missouri Wesleyan college.

## Control of Thor Corp. Shifts to 3-Man Group

CHICAGO—A three-man group has obtained a controlling stock interest in Thor Corp., manufacturer of major electrical appliances.

Arnold H. Maremont, president of Maremont Automotive Products, Inc., is head of the group, which includes Victor Nemeroff, president of H. & B. American Machine Co., and David Bright, president of Electro Mfg. Co.

A spokesman for the group said its does not plan a merger of Thor and any other concern, nor does it contemplate any immediate changes in management.

## Canadian RSES Convention Set for Montreal Feb. 7-8

MONTREAL, Que., Can.—The 16th annual convention of the Refrigeration Service Engineers Society (Canada) will be held Feb. 7-8 at the Mount Royal hotel here, it was announced recently.

The program will include educational sessions and a banquet and dance under the auspices of the Mount Royal Chapter.

## Flush-Mounted Window Units Lead RCA Line

CAMDEN, N. J.—"The strongest room air conditioner merchandise program ever undertaken by Radio Corp. of America," spearheaded by the introduction of a new series of flush-mounted window models, has been presented to RCA's distributors at a series of regional meetings.

The flush-mounted units, which will be integrated into RCA's current line, consist of four newly-designed models to be known as the "Super Series."

A compact new console unit and a unit designed for casement windows will also be added to the line. Suggested retail prices for RCA's 1955 line of window-type air conditioners start at \$189.50 for the 1/3-ton standard unit and range to \$499.50 for the 1 1/2-ton Super model.

Prices of the new window units are \$20 to \$50 (or 6 to 10%) under those of comparable 1954 models, according to a company spokesman.

He said that although the 1955 window air conditioners are not quite the same as some 1954 models, the price for the 1/2-ton Super model is \$299.50, compared with \$319.50 for a comparable model in 1954.

These other comparisons also were made: 1955 3/4-ton Super model, \$349.50; comparable 1954 model, \$389.50. 1955 1-ton Super model, \$399.50; 1954 model, \$449.50. 1955 1 1/2-ton Super model, \$499.50.

(Concluded on Page 4, Col. 3)

## Carson Pirie Scott Cuts Major Appliance Prices

CHICAGO—Carson Pirie Scott & Co., local department store, quietly cut major appliance prices recently in a move to meet discount house competition.

Tags on major appliances displayed on the floor showed both the manufacturer's suggested retail price and Carson's new low price.

There was no immediate indication that other major department stores here would follow suit.

Carson's is a member of Associated Merchandising Corp. Some AMC member stores in other cities have slashed prices to discount house levels.

## ASHAE Plans Full Program at Phila. Jan. 23-27

13 Papers To Be Presented In 4 Technical Sessions; 400 Plan Exhibits at Show

PHILADELPHIA—Thirteen papers will be presented at four technical sessions when the American Society of Heating & Air-Conditioning Engineers (formerly ASHVE) holds its 61st annual meeting here Jan. 23 to 27.

The meeting runs concurrently with the 12th International Heating, Ventilating, and Air Conditioning Exposition, held under the society's auspices, at the Commercial Museum.

With one exception, all ASHAE events are scheduled for the Bellevue-Stratford hotel. A buffet supper and party Monday evening, Jan. 24, however, will be held in the ballroom of the Benjamin Franklin hotel.

The exposition featuring more than 400 exhibits runs from Monday, Jan. 24 through Friday, Jan. 28. Hours of the show will be 2 to 10 p.m. the first day; 12 noon to 10 p.m. the next three days, and 12 noon to 6 p.m. the last day.

A highlight of the ASHAE meeting will be the annual banquet Wednesday evening, Jan. 26, the speaker being Dr. Milton Eisenhower, president of Pennsylvania State university and brother of President Eisenhower.

Considerable variety of topics is promised for the technical sessions, including one on the effects of weather conditions on a residential cooling system.

The complete program has been announced as follows:

### SUNDAY, JAN. 23

10 a.m.—Registration.  
4 p.m.—Welcome tea.

### MONDAY, JAN. 24

9 a.m.—Registration.  
(Concluded on Back Page, Col. 4)

## Fedders May Enter Central Air Conditioning Field

MASPETH, N. Y.—Fedders-Quigan Corp. hopes to enter into the manufacture of "central" air conditioning units in the near future "if our capital position improves," Salvatore Giordano, president of the company, told the annual meeting of stockholders.

Giordano also said that the Fedders-Quigan inventory of room air conditioners is no larger now than it was a year ago. He said that the company is now producing on one of the two major contracts it has for manufacturing room air conditioners sold under another major brand name.

The company showed a loss in the first fiscal quarter ended Nov. 30, but the second and subsequent quarters should be profitable, Giordano stated.

## DON'T MISS . . .

### What Makes a Successful Freezer-Food Plan?

Amana Official Lists Four Basic Requirements for Profitable Operation 2

### Are Distribution Costs Vital To Our Economy?

Distributors Ask Manufacturers To Consider What Would Happen to Mass Production Without Prosperous Distributors (Editorial) 8

### Major Functions of Water Specialists

Los Angeles Expert Describes the Problems Faced In the Elimination of Impurities from Water 10

### Guide to Stories That Ran In the News In '54

An Index of the Most Significant of the Many Important Articles Contained in the NEWS During the Last 52 Weeks 12

. . . In This Issue



## Freezer-Food Plan Should Have:

1. Ethics
2. Reliable Food Supply
3. Adequate Financing
4. Diversification of Accounts and
5. High Quality Freezer

CEDAR RAPIDS, Iowa—Giving proper attention to five main principals of good food plan operation will set a food freezer distributor and his dealers on the right road to continued success with a freezer-food plan operation, says Walter Wendler, assistant general manager of Amana Refrigeration, Inc.

On the basis of Amana's experience in 1954, it has to be admitted that Wendler speaks with some authority. Amana will have the biggest year dollar-volume wise in its history, and when the year began, roughly one-quarter of its sales at retail were through freezer-food plans. As of today, more than 50% of its volume is through retail outlets employing some type of food service in connection with the freezer sale.

### 'Blue Bloods of the Retailing World'

And among the freezer-food plan operations that have been added to its dealer roster are some of the "blue bloods of the retailing world," some 70 leading department stores or their branches.

The five elements which Wendler

termed most important in "food plan" selling of freezers are 1) Ethics; 2) Food—its quality and price; 3) Financing; 4) Diversification of accounts; 5) Product.

"A food plan founded on anything but the highest possible standard of morals and integrity hardly has a foundation," Wendler told the Amana distributors. "A freezer-food plan cannot possibly prosper if even a trace of insincerity is prevalent.

### 'Fast-Buck' Operator Can Spoil It for All

"Amana cannot, and you cannot, condone bad selling—whether it be claims of excessive savings on food cost, the furnishing of poor quality food or weight shortages, or any of the other evils that certain of the 'fast-buck' artists have injected into freezer-food plan selling methods.

"It doesn't take long for us to detect any attempt at trickery by a food plan dealer," said the Amana executive. "Whenever we receive several letters from an area complaining about the practices of a certain dealer, we know that shenanigans are going on.

"When this happens, the respective distributor is notified immediately. He is asked to promptly investigate and then to correct any improper practice.

"The food plan method is being watched closely by very critical eyes. In this group are the press, Better Business Bureaus, banks, finance companies, major retail food outlets, and the consuming public. Events of recent months have demonstrated that we must also in some way influence and possibly help our competitors to keep healthy and honest.

"We cannot play the role of the ostrich. As we learned so forcibly just a few months ago in an upper New York state area, when one freezer-food plan is discredited, all others in the area—good ones as well as the bad—suffer as a result of the bad publicity."

### Net Weight Plan Favored For Sale of Meats

On the matter of the second essential element in food-plan success—the food—Wendler had this to say:

"For a freezer-food plan to succeed, we must be able to offer the



Big news in the merchandising of food freezers in 1954 was the resurgence of the "freezer-food plan" method of selling.

Amana Refrigeration, Inc., which lays claim to being the top producer of freezers (dollar-volume wise) was doing only about 25% of its volume through food plans early in the year, but by the third quarter well over 50% of its volume was through food plans (up to 90% in some metropolitan areas).

In a series of forum and panel discussions at the Amana distributor convention some of the facts about why the right type of "freezer-food plan" succeeds were brought out. The report on this page is one in a series on the subject.

customer economy, and the food must be of top quality and honest weight. On the meat we generally favor the net weight principle, which is becoming more and more popular. Some of the biggest volume and most successful Amana food plans are selling with the net weight principle.

"Always keep in mind that, if a customer is not satisfied with the food, he will be dissatisfied with the freezer.

"Several of our distributors who have the necessary storage facilities are now purchasing both meats and frozen foods in large quantities directly from major packers. These are test operations upon which we hope to enlarge, and which we hope can someday be made available to most Amana freezer-food plan operations."

### Dealer Financing

Speaking about proper financing (the third essential) Wendler said:

"Since a food plan basically is a device by which the customer acquires a food freezer and a supply of food on a credit extension plan, credit—or financing—is an element without which a freezer-food plan cannot exist.

"The amount of financing available often determines the volume a given dealer can do. We can safeguard our source of credit by closely screening the contracts and eliminating questionable credit risks, by assisting lending institutions in the follow-up of slow-pay accounts, by making the services of a home economist available to the user, and by promptly supplying service to the freezer owner if needed.

"We hear frequently of a food plan coming to an abrupt end because its volume soon used up the credit that was available to the dealer. Before starting a freezer-food plan you must anticipate the credit requirement and make sure adequate financing is available.

"If financing is limited, gear the sales to a pace which will permit continuous selling at a constant level volume in line with available credit."

### Diversified Accounts

Diversified accounts are especially important to the distributor, Wendler said, for the following reasons:

"Our freezer-food plan operation

should consist of department stores, appliance stores, locker plants, hardware and implement dealers, exclusive food plans, and other types of outlets.

"All freezer sales are by no means connected with a food service, and wherever we are not getting a reasonable non-food-plan volume, we are in essence turning that share of the business over to our competitors. Our stakes are too high to permit putting all our eggs in one basket. Broad dealer coverage is the only answer."

### 'Suede-Shoe' Boys

The effect of "quality in the freezer" on food plan selling was explained by Wendler in the following discourse:

"The often referred-to 'suede-shoe' boys of a few years ago, as well as their descendants who are functioning today, have not been too particular what make of freezer they supplied.

"The brand name that it carried, and its life expectancy were unimportant to them. They did not plan to be around long enough to witness the unhappy faces of their hoodwinked customers—who ultimately found themselves with a defective freezer and no one to turn to for service."

### Moore & Stewart Named Manitowoc Distributor

MANITOWOC, Wis.—New distributor for Manitowoc upright freezers and the "2-Zone" refrigerator-freezer in the Carolinas is Moore & Stewart, Inc. of Gastonia, N. C.

The firm will handle distribution, service, and local merchandising for Manitowoc Equipment Works in South Carolina and 45 counties of North Carolina.

Four appliance district managers will supervise Manitowoc distribution for Moore & Stewart. They are C. A. Arndt, J. U. Gibbs, H. H. Alexander, and W. E. Plampin.

### Distributor Names Clark

COLUMBIA, S. C.—Appointment of Charles Clark as advertising and sales promotion manager of Associated Distributing Co., distributor of Admiral products here, has been announced.

## WOLVERINE IS FAMOUS FOR FIRSTS

As a wholesaler you have every right in the world to expect that manufacturers, whose lines you carry, are going to do everything in their power to keep their products and services ahead of the field.

This is the type of thinking that Wolverine believes in and it's the reason why over the years, Wolverine has become famous for new ideas that help both the seller and user of copper tubing.

For example, not too many years ago the request by a customer for a less than standard length of tubing, posed difficulties to wholesalers and their sales staff. Wolverine recognized this and was the first in the industry to introduce per coil, and per piece pricing.

Wolverine was also the first to introduce printed price sheets. This was a definite aid to wholesalers and has saved valuable time formerly spent in searching invoices to determine selling prices.

And then there is the matter of packaged tubing.

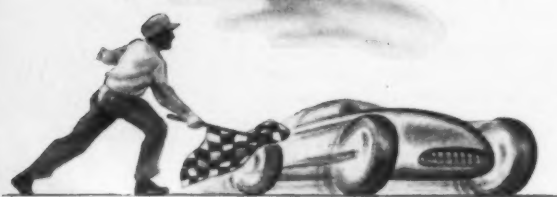
Wholesalers were once at their wits end as they attempted to keep coils of tubing neatly stored and protected from damage and dirt. Thus, Wolverine introduced the industry's first cartoned coil of tube.

Wolverine's innovation proved of immense value to wholesaler, user and manufacturer alike, and cartoned tubing was quickly adopted by the entire industry.

Wolverine was also first in the tubing industry to recognize the importance of the wholesaler's place in America's economic system. That's why it has devoted such a large share of its national advertising to strengthening the wholesaler's position—has told your customers more than eight million times that the only way they can obtain top-quality Wolverine copper tube is to "BUY FROM YOUR WHOLESALER."

These, briefly, are but a few of the reasons why users of copper tubing look first to Wolverine for the finest of products—the finest of services.

It's your guarantee that when you sell Wolverine products you're selling quality and service—two important firsts with your customers. WOLVERINE TUBE, Division of Calumet & Hecla, Inc., 1413 Central Avenue, Detroit 9, Michigan.



**WOLVERINE TUBE**  
DIVISION OF CALUMET & HECLA, INC.

Manufacturers of Quality-Controlled Tubing  
and Extruded Aluminum Shapes

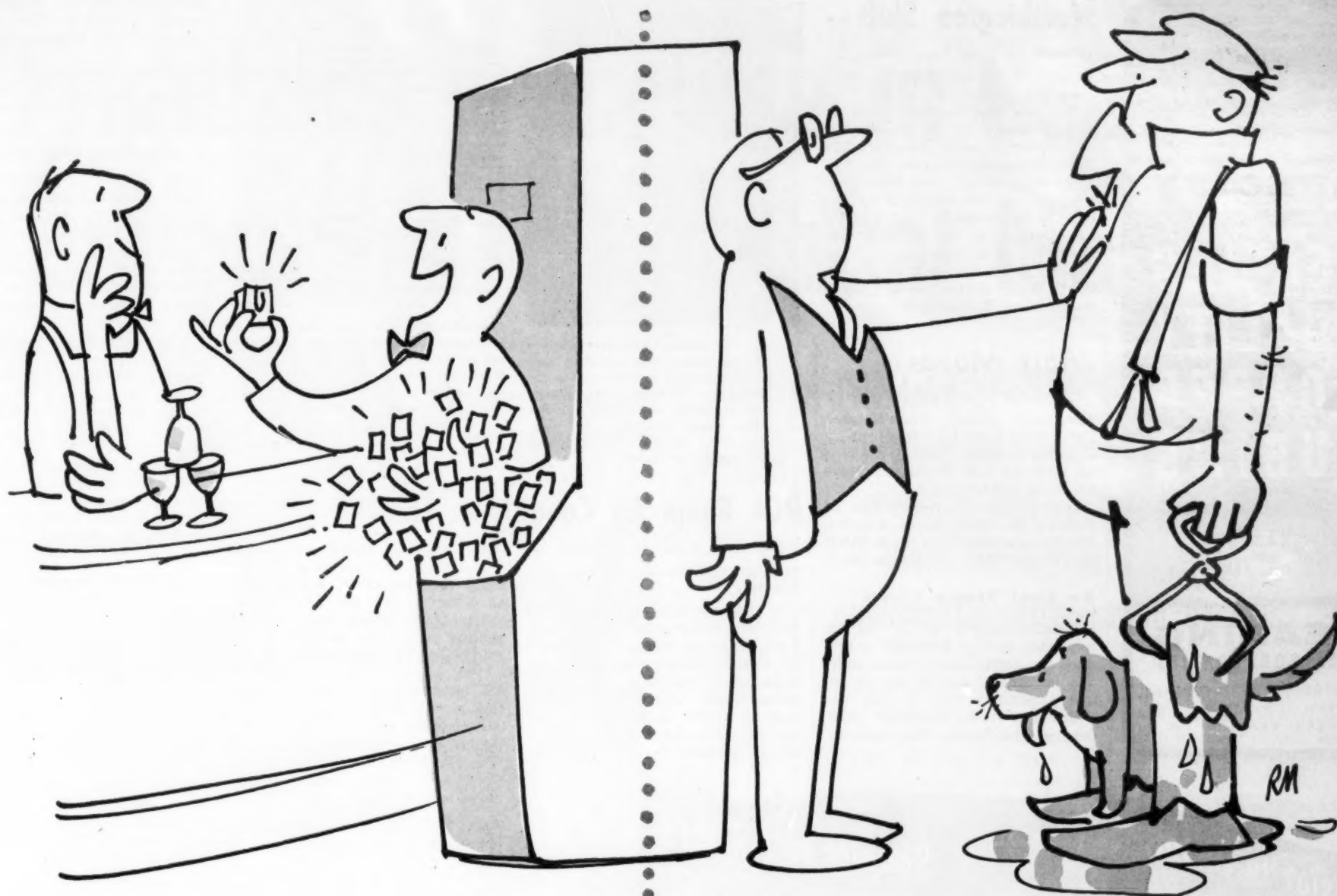
PLANTS IN DETROIT, MICHIGAN, AND DECATUR, ALABAMA. SALES OFFICES IN PRINCIPAL CITIES.  
EXPORT DEPARTMENT, 15 EAST 40TH STREET, NEW YORK 16, N. Y.

## SALES SPECIALIST FOR ELECTRIC RANGES

Midwestern appliance manufacturer needs an experienced electric range sales specialist. The man we are looking for should be a topnotch salesman with a thorough knowledge of the electric range business. Must be willing to travel extensively and capable of promoting electric range sales at the distributor and dealer levels. Salary commensurate to ability to produce.

APPLY BOX A5121, AIR CONDITIONING & REFRIGERATION NEWS





## It's great to be a Carrier Icemaker Dealer!

## Because Carrier Distributors are extra helpful!

**W**HEN a Carrier Dealer sells, you usually find a Carrier Distributor lending a hand—though not necessarily to hold off an irate iceman. Your Carrier Distributor offers the greatest collection of attractions that ever unfroze a prospect. Carrier Icemakers have everything. And Carrier Dealers get everything they need to sell them.

**Great product!**

*Cubes and crushed ice in 3 grades from one machine.*

*Completely automatic operation . . .  
self-starting, self-stopping—and even  
self-cleaning.*

*Few moving parts—hence little maintenance.*

*Compact vertical cabinet occupying as little as 24 by 25 inches floor space.*

*Styling and finish that are a credit to any surroundings.*

*Models to meet any prospect's ice need—up to 200 and to 450 lbs. a day. More by combination hook-ups. Flake models, too—up to 2000 lbs. capacity.*

**Great support!**

Carrier Distributors have loads of selling aids . . . can pass along everything needed to enable the dealer to make money:

*Realistic pricing structure that ensures substantial profits.*

*Easy dealer-financing and money-saving warehousing arrangements.*

*Attractive financing plan for the consumer.*

*Comprehensive sales-training programs.*

*Special incentive programs with worth-while prizes for dealers and salesmen. (Big "sweepstakes" contest ready early in '55.)*

### Great promotional help!

Carrier national advertising is designed to work at the local level. It "breaks the ice." Gets prospects interested because it appeals to their self-interest. Brings in leads for you — through coupons, letters, post cards and telephone.

And then Carrier provides follow-through promotional material that you can use to turn those leads into sales.

**You'll make a great team—You, your Distributor, and Carrier! Send the coupon on its way—NOW—and start yourself on the way to big and continuing profits.**



**AIR CONDITIONING • REFRIGERATION**  
**INDUSTRIAL HEATING**

**CARRIER CORPORATION, 310 S. Geddes Street, Syracuse, New York**

I'm interested! Tell me more about selling:

<input type="checkbox"/> Carrier Ice makers	<input type="checkbox"/> Carrier Residential Weathermakers
<input type="checkbox"/> Carrier Self-contained Weathermakers	<input type="checkbox"/> Carrier System Weathermakers
	<input type="checkbox"/> Carrier Room Air Conditioners

**Tell me how I can get in touch with my nearest Carrier Distributor.**

Name \_\_\_\_\_

Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_





FOR  
REFRIGERATION  
AND  
AIR CONDITIONING  
EQUIPMENT...

**SPECIFY**

**READING  
QUALITY  
COPPER  
TUBING**



**READING  
TUBE CORPORATION**

EMPIRE STATE BUILDING  
NEW YORK 1, N. Y.  
WORKS: READING, PA.

## Worthington Shift --

(Concluded from Page 1, Col. 2)  
Ramsey will continue as chief executive officer.

Clarence E. Searle is retiring as vice chairman of the board, but will continue as a director. The changes become effective Jan. 1.

Schwanhauser joined Worthington in 1915, was elected to the board of directors in 1942, and became executive vice president in 1949. He is a director of Niles Bement Pond Co. and a member of the board of trustees of Stevens Institute of Technology.

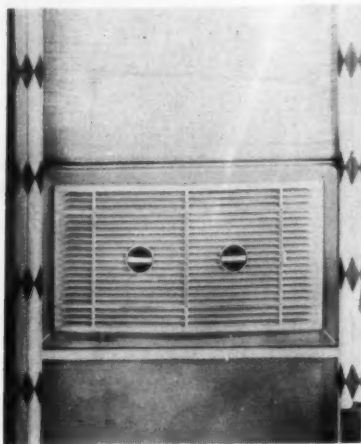
## Mart Moves --

(Concluded from Page 1, Col. 2)  
dise Mart include Apex-Rotarex Corp. from 1472 to 1160-61; Easy Washing Machine Corp. from 1464 to 1168-69; and Perfection Stove Co. from 1474 to 1174.

International Harvester will be showing its refrigerators, freezers, and air conditioners in Room 549-B at The American Furniture Mart.

## To Cool Motor Court

CHARLESTON, S. C.—At an estimated cost of \$500,000, a 100-unit air conditioned motor court will be constructed at Cannon St. and Courtenay Dr., it was announced by Irving Steinberg, president of the Castle Pinckney Inn, Inc.

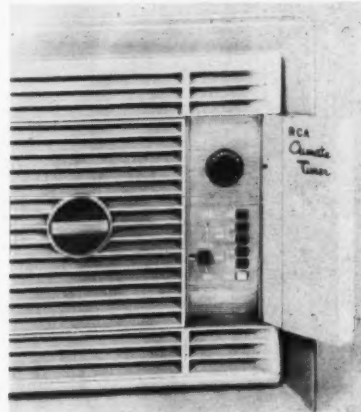


SEVENTY-FIVE SUPER, ¾-ton flush mounted room air conditioner, features built-in electric heater, two-speed, twin-fan cooling system, automatic thermostat, and Climate Tuner controls located on the front, right side of cabinet. Prices for window units range from \$189.50 for standard model to \$499.50 for 1½-ton Super unit.

## RCA Room Air Conditioner Line --

(Concluded from Page 1, Col. 4)  
\$499.50; comparable 1954 unit, \$549.50.

In the top-level meetings held with distributor principals in New York, Chicago, Dallas, and Atlanta, Austin (Russ) Rising, general manager of the RCA Air Conditioner Dept., urged the industry and the trade, in their own best interest, to revise their concept of air conditioners as a product that



CONTROLS FOR RCA's new Super series of flush-mounted window type air conditioners are concealed in a Climate Tuner recess. Simple finger-tip operation is provided by six pushbuttons. Night light is turned on when door is opened.

requires annual change of models.

"I believe we have been erroneously thinking of air conditioners as being in the same category as automobiles, where the vintage year is practically marked on the grill," he told the distributors.

"We haven't been thinking of air conditioners in the category that air conditioners really belong. Air conditioners are space conditioners primarily. They are in the category of space-heaters. On the purchase of such items, no one balks because of the grill."

## WILL CONTINUE CURRENT MODELS

RCA, he noted, will continue its current standard and deluxe units, and, with the addition of models with new features, "will be able to offer a complete well-rounded line in 1955." Also continued in the line is the RCA electric dehumidifier.

RCA looks forward with confidence to a sales volume exceeding 1954's, Rising stated.

"Air conditioning is a growing business. Sales to consumers have increased every year since the industry's inception. And, in 1954, the year that was called 'rough,' sales to consumers increased 15% over 1953.

"In the same year, 1954, RCA's air conditioner business increased 30%," he explained to the distributors.

In the new Super Series, a built-in electric heater is incorporated as standard equipment in the RCA Seventy-Five (¾-ton), the One Hundred (1 ton), and the One Hundred Fifty (1½ ton) models.

"All the Super units offer a newly-incorporated two-speed cool-

ing system utilizing twin fans to provide a more positive air flow and greater ventilation capacity," it was stated. "An automatic thermostat for constant cooling temperature control is also incorporated as standard equipment in this series.

## CONTROLS CONCEALED

"All control operations for the Super series models are concealed in a Climate Tuner panel which is located on the front of the unit. Simple finger-tip operation is provided by six pushbuttons in the Climate Tuner. A night light is turned on when the Climate Tuner door is opened.

"For added consumer appeal, the cabinet has been styled by Henry Dreyfuss, well-known industrial designer. The one-piece, wrap-around cabinet is attractively finished in two-tone 'Alpine Gray' and 'Pacific Pearl.'

"The new compact consolette is a ¾-ton unit which is only about 12 in. in depth and 32 in. in height. It will feature a Dreyfuss-styled, attractively finished wood-and-metal cabinet.

## CASEMENT WINDOW MODEL IS ¾-TON UNIT

"The new casement window model is also a ¾-ton unit with two-speed cooling. It is expected to fit practically all casement windows."

Deliveries to distributors are scheduled to start early in January.

An extensive sales promotion and advertising program is being mapped to support the 1955 line, it was announced. Details of the program will not be available for several weeks.

## 1955 RCA ROOM AIR CONDITIONERS WINDOW UNITS

	Suggested retail prices
¾ ton Standard*	\$189.50
¾ ton Deluxe	239.50
¾ ton Super	299.50
¾ ton Standard*	289.50
¾ ton Deluxe	319.50
¾ ton (HP)**	349.50
¾ ton Super	349.50
1 ton Standard*	339.50
1 ton Deluxe	369.50
1 ton (HP)**	399.50
1 ton Super	399.50
1½ ton Super	499.50

## CONSOLES

1 ton	449.50
1½ ton	549.50

## CONSOLETTES

¾ ton	(to be announced)
-------	-------------------

## CASEMENT WINDOW

¾-ton (HP)**	(to be announced)
Dehumidifier	129.50

\*Thermostat kits supplied—no charge—all standard models.  
\*\*Heat Pump.

## WHY WAIT?

Get your new product info pronto. Use coupon on "What's New" page this issue.

Easier to Install...

Simpler to Adjust!

**PENN**

SERIES 270

**SINGLE-POLE  
REFRIGERATION  
CONTROL**

Just three easy steps to install...

two steps to adjust the Penn Series 270 single-pole refrigeration control.

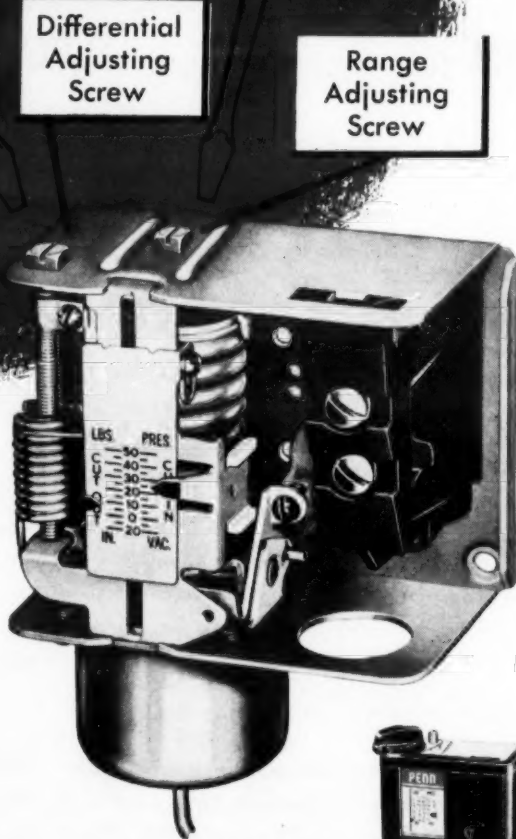
## HERE'S HOW TO INSTALL IT...

- 1 Mount control on compressor unit or any flat surface (universal mounting bracket furnished).
- 2 Connect flare nut on power element capillary to compressor suction valve.
- 3 Remove control cover and make two electrical connections (terminals are easily accessible).

## AND HERE'S HOW TO ADJUST IT...

- 1 Turn range screw to raise or lower cut-in setting as required (differential remains constant).
- 2 Turn differential screw to raise or lower cut-out setting independent of cut-in setting (this narrows or widens differential).

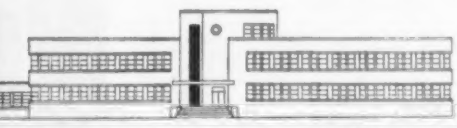
And, adjustment is even simpler because of Penn's direct-reading, calibrated scale indicating cut-in and cut-out settings. Time-wasting subtraction or addition is eliminated.



Series 270 available in single and double pole construction... with or without external adjusting knob.

For low cost, top performance and greatest simplicity in installing and adjusting... ask your wholesaler for the Penn "270" Single-Pole Refrigeration Control. Penn Controls, Inc., Goshen, Indiana. Export Division: 13 E. 40th Street, New York 16, N. Y., U. S. A. In Canada: Penn Controls Limited, Toronto, Ontario.

**PENN**



**AUTOMATIC CONTROLS**

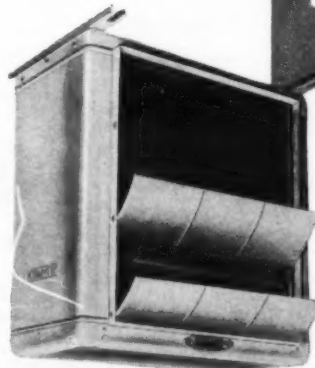
FOR HEATING, REFRIGERATION, AIR CONDITIONING, GAS APPLIANCES, PUMPS, AIR COMPRESSORS, ENGINES

7 SIZES

2,500 to 12,000 BTU

**KRAMER**

**Kay-Tee**



Kramer's constant engineering research and mechanical development gives you...

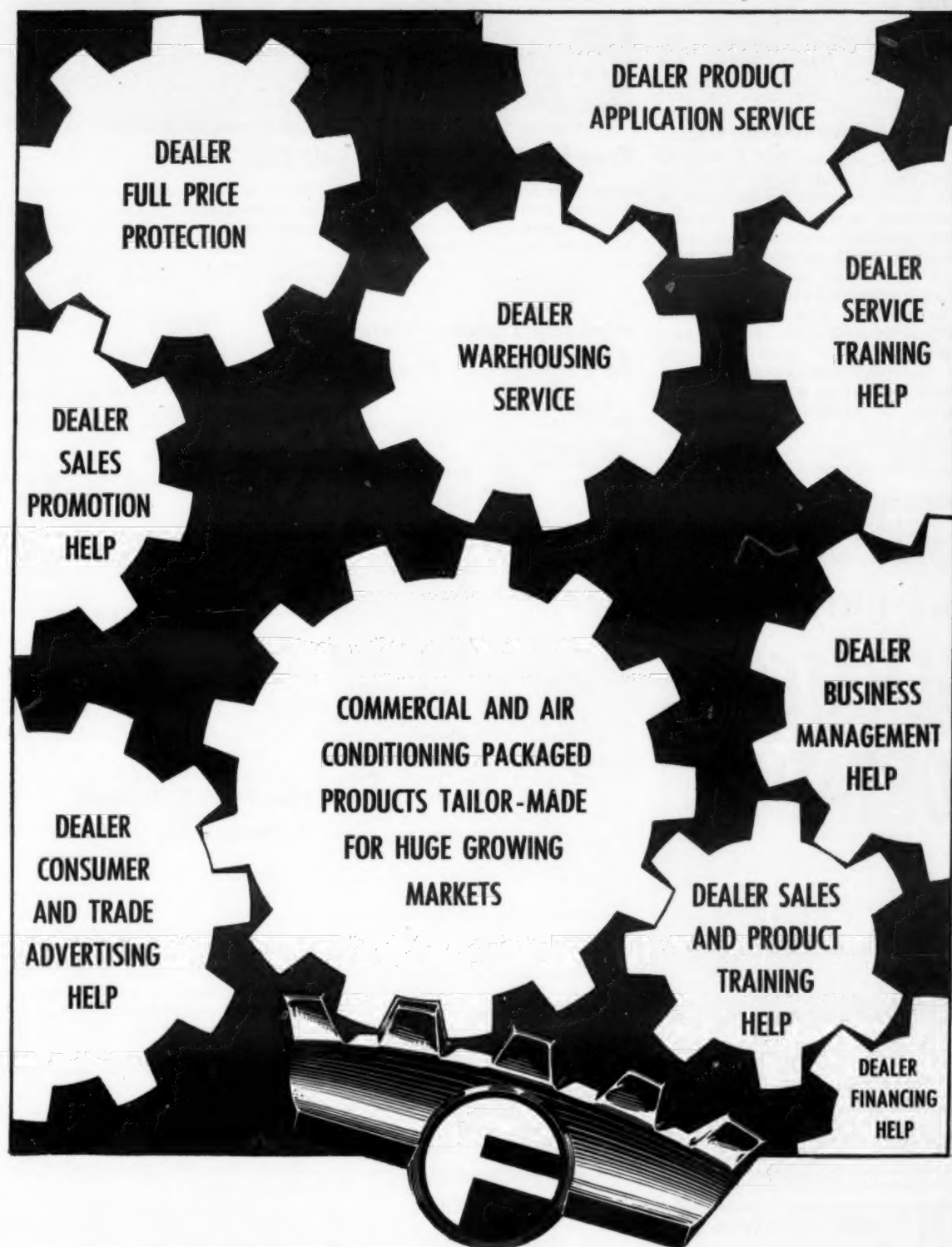
**A BETTER COIL  
for LESS MONEY!**

WRITE FOR CATALOG R-230

**KRAMER TRENTON CO. • Trenton 5, N.J.**



# Frigidaire Franchise in Gear for Billion Dollar Potential Market



## Frigidaire helps dealers improve business with wide range of dealer services

A widespread Frigidaire Field Organization is always at the service of the Dealer. It's maintained to help Dealers



improve selling methods or solve business problems. On call are concentrated programs of sales and product training . . . special incentive campaigns . . . selling aids . . . user gifts . . . a detailed and complete sales planning guide. And the Frigidaire Dealer is backed with the best in sales promotions.

### Outstanding Advertising Campaigns

Large consumer ads in leading popular magazines are teamed up with

dominant trade advertising to strengthen the Dealer's sales position. Complete direct mail programs, co-op ad funds, sales literature, displays, national and local exhibits are specially prepared for him.

### Management and Financing Service

Dealers may call upon their District for help in setting up accounting systems, cost-profit analysis, or for other financial advice or counsel. Districts also provide the Dealer with product application data; service training and convenient products and parts warehousing.

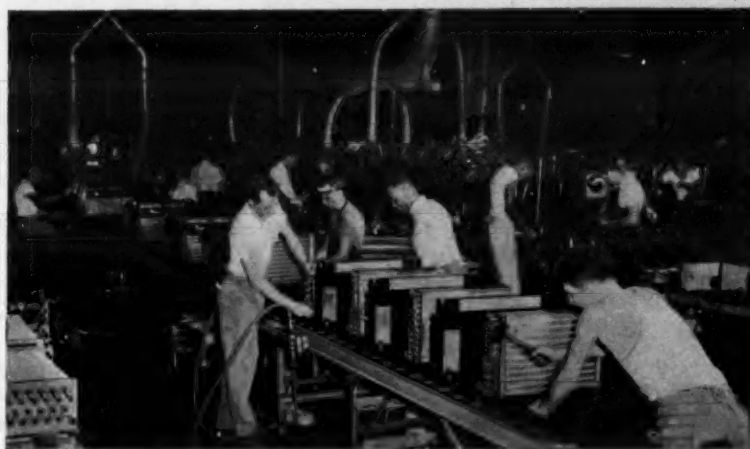
## Frigidaire gives added support to Dealer Organization with improved packaged products and factory services tailor-made for big air conditioning and commercial refrigeration business ahead

Today, Frigidaire Commercial Dealers are building upon a history of steady growth and the promise of a brilliant future. Within the next few years, the booming market for commercial and air conditioning products is expected to reach the billion dollar mark annually in sales. And with even bigger, better, broader lines of packaged products in the making, Frigidaire Dealers have the inside track for a bigger share of a fast-growing business.

The Frigidaire Dealer's packaged products give him consistently stronger selling advantages. For Frigidaire Packaged Products

are quality-built with exclusive sales features. Salesmen can give quick, accurate estimates; offer prompt installations; back up sales with factory-trained service. Frigidaire backs every Dealer with extensive sales and service training . . . nation-wide advertising . . . powerful merchandising . . . helpful sales aids.

Every sign now points to a bigger year ahead, and even bigger years to follow. Frigidaire Dealers across the nation are on the move toward new sales and markets that should soon be breaking sales records in every packaged product line.



**Ample production facilities**—Frigidaire's Commercial and Air Conditioning volume is big business to General Motors. Vast areas of floor space in big, modern plants are now devoted exclusively to Frigidaire commercial production. This means as sales climb, production will always keep pace.



**Planned product development**—On the drawing board and in the laboratory are new ideas and research projects that promise to open entire new fields to the Frigidaire Dealer. The markets for packaged commercial and air conditioning products are big. And Frigidaire is committing every resource to build business now and for the future.



# FRIGIDAIRE

COMMERCIAL REFRIGERATION AND AIR CONDITIONING

— for growth and progress with General Motors



## CRMA Members Tour Warren Plant, Have Hot Debate on Use of Color In Fixtures

ATLANTA—Atlanta was headquarters for the commercial refrigerator industry late last month when The Warren Co., one of the oldest manufacturers of commercial refrigerator fixtures in the country, was host to a group of top-echelon management, sales, and production executives attending the Commercial Refrigerator Manufacturers Association's fourth annual plant tour and production conference.

As at earlier CRMA meetings this year, the trend toward colored finishes for refrigerated fixtures provoked animated discussion, with the production men almost solidly opposed, and a majority of the sales department representatives in favor.

### TOOLING EXPENSES RUN HIGH

The production men pointed out that tooling up for color presents an expense problem, as it is often difficult to secure accurate "matches." Furthermore, said the production men, since much of such work is customized, finishing costs are increased.

While most of the sales executives in attendance who favored the idea of color finishes upheld the "give the customer what he

wants" viewpoint, there were several firm dissenters. These felt that the color trend is purely transitory, and predicted that once the novelty wore off, as they believe it would, the traditional preference for white for fixture exteriors would return.

Among the Warren officials who greeted the nearly 100 CRMA delegates were Commodore Virgil P. Warren, the company's founder and now chairman of the board; John D. Harris, president; Roger D. Jacobs, executive vice president; and Allen P. Livar, vice president in charge of manufacturing. The latter was chairman of the CRMA committee on arrangements for the two-day program.

The committee also included Stuart Bergman, production manager of Friedrich Refrigerators, Inc.; W. H. Grant, vice president of Hussmann Refrigerator Co.; and Joseph W. Krall, president, McQuay Refrigerator Co.

One day of the session was devoted to the regularly scheduled annual Fall-Winter meeting of the association, with CRMA President Edwin B. Ahrens, of The C. Schmidt Co., presiding. Following adjournment, the group was joined by members of their engineering and production staffs at a cocktail

party given for them by the Warren organization at the Atlanta Athletic Club. The association's annual fellowship dinner, with Commodore Warren and his associates as guests of honor, completed the day's activities.

Following breakfast the next morning, the visitors assembled at the Warren plant, where they were divided into small groups and escorted through the entire plant on a schedule that enabled them to inspect each process and operation closely.

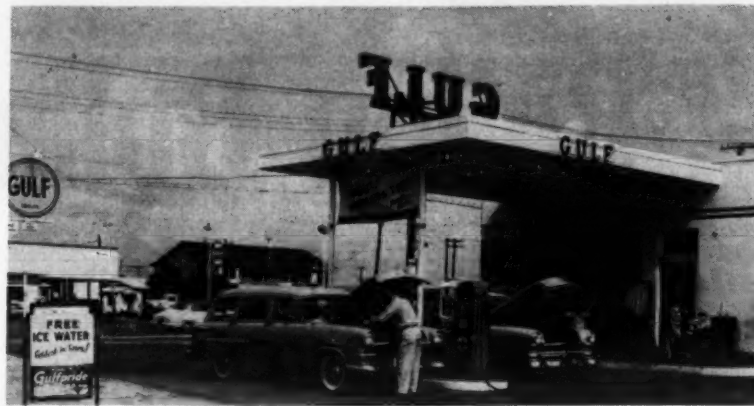
The remainder of the day was devoted to an extended discussion period, with the Warren technical staff answering many questions concerning the techniques observed by the delegates. Discussion leaders included Harris, Jacobs, and Livar, with Grant acting as moderator.

### 'OPERATION BOOTSTRAP'

CRMA believes that it may be the only manufacturers' group in the nation sponsoring meetings of this kind, in which keenly competing member organizations open their doors to technical men from throughout the industry for first-hand inspection of their production methods, and exchange ideas of an "operation bootstrap" character.

The 1955 host member for this kind of meeting will be C. V. Hill & Co., at its Trenton, N. J. plant. The dates have not as yet been selected.

## Commercial Refrigeration



### Free Ice Water Helps Sell Gas

JOHN A. FUTCH, Gulf dealer of Jacksonville Beach, Fla., is featuring the newest "tourist lure" with huge success—free ice water. He has an Oasis water cooler on the outside of his station accessible to all. It's complete with glass filler to accommodate thermos bottles or jugs and has a side-mounted fountain at a conveniently low level for thirsty youngsters. A 2-ft. by 3-ft. sign in front of his station reads "Free Ice Water—Coldest in Town." Lots of people see it, stop, drink, and fill up the gas tank, according to Futch.

### McCray Names Mathis To Engineering Post

KENDALLVILLE, Ind. — Glenn W. Mathis has been appointed chief refrigeration engineer for the McCray Refrigerator Co., Inc. here, it has been announced by G. K. Bently, vice president in charge of engineering.

Mathis brings to his new assignment a broad background of educational and practical experience in the field of refrigeration engineering. He taught engineering subjects for several years after being graduated from the University of Illinois with a Bachelor of Science Degree. From 1943 to 1945 he was with Republic Aviation Corp., Evansville, Ind.

Following this he was with Seeger-Sunbeam Corp. in Evansville for a brief period as refrigeration test engineer. He then became associated with Tyler Refrigeration Corp. as assistant engineer at its Waxahachie, Texas plant. In 1949 he was made chief engineer of the Waxahachie operation, a position he held until his present appointment. Mathis is a member of the American Society of Refrigerating Engineers.

### National Merchandising Firm Changes Its Name

MT. VERNON, N. Y.—Charles Q. Sherman, president of Refrigerated Equipment Sales Corp. here, has announced that the firm will

now be known as C. Q. Sherman Associates, Inc.

The corporation will continue as national merchandising sales organization for Brewer-Titchener Corp., Binghamton, N. Y., manufacturer of low temperature ice cream and frozen food display cases, dairy cases, ice cube makers, and blood banks; Federal Tool and Machine Co., Long Island City, N. Y., manufacturer of the Federal Soft-Serv Ice Cream Converter; and Stoddard Industries, Inc., Chicago, manufacturer of the Cold Traveler refrigerated truck cabinet and condensing unit filters.

Sherman stated that his sales organization performs a complete merchandising service which consists of handling products from the point of manufacture to the wholesale trade.

### Hockett Co. To Represent Patterson-Kelley In Arizona

EAST STROUDSBURG, Pa.—Frank Hockett Co., manufacturers' representative, Mesa, Ariz., has been appointed exclusive representative in Arizona for the refrigeration and air conditioning equipment, hot water storage heater, and heat exchanger divisions of The Patterson-Kelley Co., Inc.

Frank Z. Hockett, president of the Hockett company, was with American Radiator & Standard Sanitary Corp. for 20 years as a salesman and manager of the corporation's branch office in South Bend, Ind. He also worked for Hajoca Corp.

Prior to founding the Hockett company in Mesa in 1953, he was president of Frank Hockett Supply Co. and Loman Supply & Equipment Co., both in Greensboro, N. C.



Typical Engine Installation



Lehigh Blower-Evaporator For 2-Compressor System



Lehigh Over-Cab Mounting



Typical Plate Blower For 2-Compressor System

## ROAD PROVEN SYSTEMS and UNITS for REFRIGERATED TRANSPORTATION

### BACKED BY NATION-WIDE INSTALLATION AND SERVICE

#### Used As Standard Equipment By America's Leading Fleets, Carriers, Processors, Body Builders

Engineering principle and construction road proven by millions of miles of use. Factory trained, specialized distributors with complete parts stocks assure uninterrupted service everywhere. Factory pre-assembly of components, pre-wiring, and "packaging" of all essentials for mounting in one compact kit speeds installation and reduces costs. Our engineering department is at your service — anywhere! Catalogs gladly mailed.

#### PACKAGED TWO-COMPRESSOR BLOWER-EVAPORATOR SYSTEMS

For intermittent stops or rural delivery. A fully automatic on-the-road and standby combination. Blower-evaporator gives fast pull-down. Package is complete — ready to install.

#### PLATE TYPE SYSTEMS — for over-the-cab mounting or recess in truck body

Used for retail city delivery with frequent stops. The best system for the body builder or service-construction contractor. Packaged complete — ready to install.

#### PACKAGED TWO-COMPRESSOR PLATE-BLOWER SYSTEMS

For on-the-road and standby operation. The right system for continuous city delivery or numerous pick-up and delivery stops. Package includes all operating and mounting components.

#### SINGLE COMPRESSOR SYSTEMS

For on-the-road refrigeration only. Compressor operated by truck engine. Fully automatic controls. Kit contains five major components to be installed by the body builder or user.

★ REMOTE TYPE TRUCK UNITS — 3/4 H.P. thru 3 H.P.

# Lehigh

## BLU-COLD

Lehigh Manufacturing Co.

DIVISION OF LEHIGH FOUNDRIES, INC.  
Plant: LANCASTER, PENNA.

Export: 13 E. 40th St., New York

- A complete line of belt-driven units — 1/4 H.P. thru 5 H.P.
- Hermetic Units — 1/2 H.P. thru 1 1/2 H.P.
- Automatic Defrost Units — 3/4 H.P. thru 3 H.P.

Manufacturers of Malleable and Grey Iron Castings, Refrigerating Equipment, Air Valves, Automatic Vending Machines

## Here's Harry Alter's DEPENDABOOK

No. 161...

1954

### REFRIGERATION PARTS and Supplies plus

Electric-Motor Parts, Air Conditioning and Heating

There are over 9,000 items illustrated, described and rock-bottom-priced in our newest DEPENDABOOK. So—get and use this money-saver! Write for your copy to

The HARRY ALTER CO., Inc.  
1728 S. Michigan Ave., Chicago 16, Ill.  
134 Lafayette St., New York 13, N. Y.

WHOLESALE ONLY  
"Harry Alter gives you snappy service."





# AIR CONDITIONING

## Plans for \$3,000,000 Skyscraper Include Full Air Conditioning

BIRMINGHAM, Ala.—Preliminary plans for a \$3,000,000 skyscraper building, air conditioned throughout, have been prepared by Architect Martin J. Lide.

I. B. Armstrong, Jr., local businessman, has proposed construction of a 20-story building in the Birmingham Medical Center to place physicians and allied professional persons within the reach of the center's facilities.

Architect Lide said each suite in the new office suite in the building will have individual thermostatic control.

He added that the construction will consist of a steel frame with masonry end walls faced with limestone. The front and rear walls will be windows and blue porcelain enamel-faced panels fastened to the steel frames.

## Firm Formed In Dallas as Air Conditioning Contractor

DALLAS—Texas Air Conditioning Contractors, a new Dallas firm of air conditioning, sales, engineering, and installation specialists in residential and small commercial work, has opened at 5608 E. Mockingbird Lane.

Principals of the new firm, which will feature Worthington products, include Ben Matto, in charge of sales and engineering; W. H. Murray, sheet metal specialist in charge of installations; and Milan Culbrik, heading service and maintenance.

## Trane of Canada Builds New Factory, Office Bldg.

TORONTO, Ont., Can.—Trane Co. of Canada Ltd. is increasing facilities for air conditioner and refrigeration compressor production with construction of a new factory and office building of 100,000 sq. ft.

Expected to be completed next summer at a cost of \$700,000, the addition will bring total floor area to around 150,000 sq. ft.

## Year-Round Conditioning Featured in Atlanta Apartment Development

ATLANTA — Ashley Hall, a \$350,000 garden-type apartment development featuring all-year air conditioning in every room, has been completed at 3401-34 Roswell Rd. N.E. here.

The 32-family project is heated and cooled by room unit air conditioners supplied with chilled and hot water from a central plant. Use of a compact United States Air Conditioning Corp. packaged 40-ton water chiller, with built-in evaporative condenser, permitted all of the central plant to be accommodated in the basement of the building, it was pointed out.

The air conditioning equipment was installed by Empire Gas Engineering Co.

## Fuller To Represent Mfrs. In Southeastern Michigan

DETROIT—John L. Fuller, formerly sales manager for the local Carrier distributor and lately for the Airtemp distributor, announced recently that he is now organizing associates to represent manufacturers of heating and air conditioning apparatus and kindred lines in metropolitan Detroit and southeastern Michigan.

Fuller's career of more than 25 years has been in sales engineering of heating and air conditioning in this trading area. John L. Fuller & Co. is located at 1745 Chicago Blvd., Detroit 6.

## Remodel Miller-Jackson Bldg.; First Floor To Be Conditioned

OKLAHOMA CITY — The interior of the Miller-Jackson Co. building at 113 E. California is being remodeled at a cost of \$15,000.

Office area is being completely remodeled and the first floor of the four-story building is being air conditioned.

Miller-Jackson, wholesaler of household equipment, appliances, and refrigeration units, will celebrate its 50th anniversary in business next year.

## Houston Bank System Uses 390 Individually Controlled Zones

HOUSTON, Texas—Climate controls will be in full view of the public in the new 24-story Second National Bank building, according to Robert D. Straus, contracting official.

The \$2,000,000 project will provide 3,000 tons of refrigeration for the building, said Straus, executive vice president of Straus-Frank Co., mechanical contractor. Carrier air conditioning is being installed, with Minneapolis-Honeywell controls.

The structure will be divided into 390 air conditioning zones, each with its own set of climate controls centered in the building engineer's office.

The installation will be the first complete electronic system of its kind, Straus said.

## Bal-Air Appoints Hailey National Sales Manager

NASHVILLE, Tenn.—John Willson, president of Bal-Air, Inc. here, has announced the appointment of James E. Hailey as national sales manager for the Bal-Air air conditioning equipment.

Hailey is a graduate of Indiana Tech. He was formerly employed by McQuay, Inc.

## INSIDE DOPE

Learn to live and laugh—Thus delay your epitaph

By GEORGE F. TAUBENECK

(Concluded from Page 1, Col. 1)

is possible.

Residential customers require single-phase service. Three-phase service to a residence costs more than single phase. Estimates of the cost of providing three-phase service where single-phase service exists vary from \$300 to \$700. If an additional three-phase service were supplied those customers able to afford air conditioning equipment in the capacities in which three-phase equipment is available as an alternate to single phase equipment, all residential customers would inevitably subsidize those few requiring this special treatment.

The running power factor of integral horsepower single-phase air conditioning motors is better than three-phase motors. Single-phase power factor of such motors is from 90% to 95% compared to 80% to 85% for a three-phase motor.

There is less trouble with unbalanced voltages of single-phase motors, whereas a slight unbalance in voltage builds up an increase in

phase amperes of a three-phase motor resulting in probable overheating and in some cases making burnouts possible.

Single-phase motors have been improved in quality and increased production has narrowed the price differential between them and three-phase motors. They are quieter and in every way satisfactory in performance.

With respect to the editorial's reference to the Underwriters Laboratory, I submit as an excellent example of industry-wide cooperation in the establishment of reasonable "Minimum" standards for safety, is the Underwriters' code requirements which to my knowledge have never militated against the providing by manufacturers of "real good mechanisms."

You will perhaps be interested in the attached copy of a communication we have recently sent to distributors and manufacturers of room air conditioners.

You will agree, I am certain, that in this matter of making it possible for the largest number of people to enjoy the improved living standards that air conditioning makes possible, the manufacturers, their distributors, dealers, and servicemen, the electrical utility, and the electrical contractor who provides the customer's wiring, are in effect partners in this progress. Each should understand his own and the other's problems and his responsibility to the public.

S. S. SANBURY, Manager, Sales Development & Training

## New Carton Coding for DETROIT Expansion Valves

To help you identify and select thermostatic expansion valves quickly, DETROIT cartons are now coded to show all important information at a glance.

The relative position of these code designations is always the same—the sequence never changes.



**1 CATALOG NUMBER**  
673, 777, 573, etc.

**2 REFRIGERANT**  
F-12 Freon-12  
F-22 Freon-22  
M Methyl Chloride  
S Sulphur Dioxide

**3 APPLICATION**  
L Low Temperature  
M Medium Temperature  
H High Temperature

**4 CHARGE**  
G Gas Charge  
L Liquid Charge  
C "C" Charge (Down to 0°)  
Z "Z" Charge (Below 0°)

**6 FEATURE**  
E External Equalizer  
PL Pressure Limit

**5 CAPACITY**  
Nominal Rating  
In Tons

Unit number for ordering purposes is always in the lower right hand corner of the label. Carton labels will continue to be color coded according to standard industry practice:

Yellow—Freon-12 | Red—Methyl  
Green—Freon-22 | Blue—Sulphur

Canadian Representatives  
RAILWAY AND ENGINEERING SPECIALTIES, LTD.  
HOUSTON, TORONTO, WINNIPEG

**DETROIT CONTROLS**



CORPORATION

3900 TRUMBULL AVE. • DETROIT 8, MICHIGAN  
Division of AMERICAN RADIATOR & STANDARD SANITARY CORPORATION

Serving home and industry:

AMERICAN STANDARD • AMERICAN BLOWER • CHURCH SEATS & WALL TILE • DETROIT CONTROLS • NEWAEE BOILERS • ROSS EXCHANGERS • SUNBEAM AIR CONDITIONERS

**usAIRco**  
30 YEARS OF AIR CONDITIONING



Unit Air Conditioners



Heating and Cooling Coils



Window Units



Packaged Air Conditioners



Individual Room Cooling And Heating Units



Packaged Central Station Air Conditioners



Home Unit

designers and manufacturers of a complete line of cooling, heating, ventilating and refrigerated air conditioning equipment for jobs you can be proud of...

UNITED STATES AIR CONDITIONING CORPORATION  
MINNEAPOLIS 14, MINNESOTA

For dealer plan write Dept. ACN 15





Trade Mark registered U. S. Patent Office: Est. 1926.

F. M. COCKRELL, Founder

### The Conscience of the Industry

Published Every Monday by  
BUSINESS NEWS PUBLISHING CO.  
450 W. Fort St., Detroit 26, Mich.  
Telephone Woodward 2-0924.  
New York Office: 521 Fifth Ave.,  
Telephone Murray Hill 7-7155.  
Chicago office: 134 S. LaSalle St.,  
Telephone Franklin 2-8093.  
Ohio Office: Commercial Bank Bldg.,  
Berea, Ohio. Telephone Berea 4-7719.

Subscription Rates: U. S. and Possessions  
and Canada: \$6.00 per year; 2 years, \$9.00;  
3 years, \$12.00. All other countries: \$10 per  
year. Single copy price, 40 cents. Ten or  
more copies, 30 cents each; 50 or more copies,  
20 cents each. Send remittance with order.

GEORGE F. TAUBENECK  
Editor and Publisher

PHIL B. REDEKER, Editorial Director

C. DALE MERICLE, Associate Editor

JOHN SWEET, Assistant Editor  
HUGH MAHAN, Assistant Editor  
GEORGE HANING, Assistant Editor  
MARGARET DEAN, Assistant Editor  
JOY SLAGHTER, Editorial Assistant

E. L. HENDERSON, General Manager  
ROBERT M. PRICE, Adv. Mgr.  
ALLEN SCHILDHAMMER, West. Adv. Mgr.  
RICHARD E. CLEARY, Adv. Rep.  
ALICE M. BARROW, Advertising Secy.  
WALTER J. SCHULER, Production Mgr.  
LLOYD SILER, Circulation Manager  
MARILYN GASS, Subscription Manager

Member, Audit Bureau of Circulations.  
Member, Associated Business Publications.  
Copyright 1954, Business News Publishing Co.

VOL. 73, No. 17, SERIAL No. 1,345  
DECEMBER 27, 1954

## Distribution Costs Are Real —And Growing Daily

The fact that products acquire added value (as they move from field, forest, or mine through a processing plant or factory) long has been reflected in the acceptance accorded to the concept of value added by manufacturing.

The concept that manufactured products continue to acquire additional value as they move through channels of trade to the point of ultimate sale or use, however, has not received equal acceptance by economists and pundits.

Instead of speaking about "value added by marketing," it has been general practice to refer to the costs of marketing or distribution.

National Association of Electrical Distributors will hearty an "Amen" to the idea of substituting "added value."

In fact, distributors are so concerned about the problem that manufacturers (and the whole business world in general) have lost sight of the concept of added value through marketing, that they have set up a special committee to study that subject.

This committee has issued a statement suggesting that manufacturers take a new look at the distribution picture—and consider whether they can expect to continue to mass produce unless they have prosperous distributors—both wholesale and retail.

The committee's statement, in part:

"This committee suggests that the enormous output of mass manufacturing would be practically worthless unless those products are distributed. We also suggest that manufacturers appraise the value of their products placed in front of the users, when their values are thoroughly explained and understood by prospects,

They'll Do It Every Time . . . . Jimmy Hatlo



when they are financed at the point of sale and after sale, and in many cases are protected in use by competent product service.

"Constantly lowered gross margins coupled with producing pressure from manufacturers producing beyond their distribution rate have placed electrical appliance distributors and dealers in a squeeze that can result in disaster for the appliance and television industry.

"This same condition has spilled over into these retail fields and dealers are making it plain that they just cannot continue to promote television and appliances without at least a margin which will support their selling effort and give them a chance to make a profit.

"Very few manufacturers have arrived at this point in their thinking. In our opinion, it will be necessary that they do so if they are to have a successful distribution of the products which they intend to make in volume.

"If manufacturers' managements agree with these conclusions, we hope that they will transmit them to their sales executives and everybody else involved in selling and merchandising endeavors.

"In the past, the enormous absorption of manufactured production in a boom period moved through distribution channels at such a rate that much value was added to the product by distribution.

"We say 'much' because, in the immediate future, great value will be added to the product if distribution keeps these factories going.

"If this value is added to the product and employment in the factories is to be maintained, it will be necessary that distribution collect their fair share of the value they add, to the end that their financial rewards will enable them to carry on.

"These most competitive times which we find ourselves in need strong, aggressive organizations at all three levels—manufacturing, distributing, and retailing—to win consumers' dollars."

Pretty good reasoning.



E A B A  
Buffalo, N. Y.

Editor:

Under separate cover we are sending to you a small brochure outlining the activities of "E A B A."

This is an organization formed by the writer to search for new products to assist in the financing of companies interested in their sale for such products with such companies who are not in a position to do a good marketing job.

It has taken me a number of years to come to this conclusion, but I now realize it probably would have been better in the long run had I made this move several years ago.

In the meantime, I suppose I have embarrassed a number of my previous friends so I assume that I should apologize and I do.

Should you hear of products or of companies who need promotional work, we certainly would appreciate keeping us in mind. The group here is a well-grounded organization in all phases of business.

My function is direction, they do the work, and from what we have

seen to date it looks as though we may have something.

We would certainly appreciate your passing this information on to the organization.

E. A. BONNEVILLE

Texas Electric Service Co.  
Fort Worth Div.  
Fort Worth, Texas

Editor:

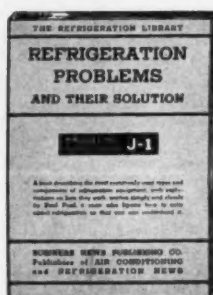
Your air conditioning survey has proved to be of great interest to the Fort Worth contractors and other industry groups.

Colonel McCoy probably has expressed the appreciation of the Fort Worth Air Conditioning Association to you for the excellent work that you did, and I, of course, wish to add my own. The thoroughness you used to accumulate the information has made it an excellent market survey rather than just a report.

From this survey, the air conditioning industry in Fort Worth should be able to devise better sales and promotion programs and, of course, this should mean a much healthier growth and development of the industry.

MAX B. MOBLEY

by PAUL REED



## REFRIGERATION PROBLEMS AND THEIR SOLUTION

Make it work! When you're stopped by a tough problem use these practical reference books with a load of factual information about every refrigeration problem you'll meet as a serviceman or salesman. For years Paul Reed has been supplying the answers in his weekly column in AIR CONDITIONING & REFRIGERATION NEWS.

Now this fund of knowledge can be yours in this 5-volume set. Order all now—or one at a time.

### VOLUME 1

Measuring Temperature; What Heat Is; Temperature-Pressure Relationships; Components in the Compression Cycle; Expansion Valves and Their Properties; Capillary Tubes; Float Valves; Heat Exchangers; Oil-Refrigerant Mixtures; Control Settings; Air Circulation; Multiple Systems; etc.

### VOLUME 2

Condensers; Compressor Shaft Seals; Defrosting Evaporators; Compressor Oil; Charging Refrigerant; Humidity and Air Circulation; Carbon Dioxide; Use of Gauges; Trouble-Shoot-

ing; Preventive Maintenance; Control of Moisture; Leaks; Care of V-Belts; Lapping Seals; Plates; Service Chart.

### VOLUME 3

Lost Time and Short Cuts; Refrigerants and Tables; Mollier Chart; Two and Three Stage Compression; Leaks and Moisture; Electric Currents; Single and Three Phase Systems; Motor Troubles; etc.

### VOLUME 4

Cleaning Parts Before Repair; Compressor Noise; Compressor

sors In Parallel; Frozen Compressors; Service Problems; Overloaded Motors; Making Money in the Service Business; Absorption; Evaporative Cooling; The Heat Pump; Comparative Cost of Fuels.

### VOLUME 5

The Oil Cycle; Oil Slugging; Copper Plating; Properties of Water Important in Cooling; Railway Car Refrigeration; Safety in the Field of Service Work; Mystery of the Hidden Moisture; Mystery of the Missing B.T.U.'s.

Each book is fully illustrated—5 by 8 inches with a hard paper cover and printed on fine paper stock.

BUSINESS NEWS PUBLISHING CO.  
450 W. Fort St., Detroit 26, Mich.

Please send Paul Reed's books as follows:

..... copies J-1, \$1.50 each. .... copies J-2, \$1.50 each.  
..... copies J-3, \$1.50 each. .... copies J-4, \$1.50 each.  
..... copies J-5, \$1.50 each.

Check for \$..... enclosed\* ☐ Bill me.

Name .....

Address .....

City ..... Zone ..... State .....

\*Books sent post-paid if remittance accompanies order.

12-27-54

MAIL NOW



## Service & Supplies



SPORLAN SALES STAFF in attendance at company conference and national sales meeting.

### Sporlan Meeting Keynote: Customer Service

ST. LOUIS—Sporlan Valve Co. recently held a five-day company conference and national sales meeting which opened with a kick-off breakfast at the Gatesworth hotel. After a two-day series of company conferences, combined with

trips through Sporlan's factories, the entire group consisting of the field sales representatives and members of the St. Louis organization, traveled to Pere Marquette Lodge in Grafton, Ill. for the three-day sales meeting.

One of the highlights of the sales meeting was a preview of two new talks on expansion valves and driers that will be available for presentation by Sporlan's field men throughout the country in the very near future.

Keynoting the meeting was the theme, "Better Service to Customers Through Improved Techniques."

### Honeywell Names DePuy To New Regional Post

MINNEAPOLIS—Art DePuy has been appointed assistant regional manager of Minneapolis-Honeywell Regulator Co.'s central sales region, with headquarters in Cleveland, it was announced recently by Gavin Younkin, general sales manager.

Wes Moore continues as central regional manager.

DePuy has been with Honeywell since 1936 and has served in various administrative sales positions, including manager of the company's sales offices in Detroit and Cincinnati. For the past year he has headed a trade division in charge of coordinating activities within the company's Heating Controls Div.

### Tecumseh Announces Changes In District Sales Organization

TECUMSEH, Mich.—Changes in Tecumseh Products Co. district sales organization have been announced recently by L. W. Larsen, sales manager.

Effective Jan. 1, 1955, A. J. Nelson is resigning as Tecumseh district manager with headquarters in Denver.

O. C. Yates, northwestern district manager with headquarters in Seattle, will take over the states of Idaho, Montana, Wyoming, Utah, and Colorado formerly handled by Nelson.

L. J. Freitas, with headquarters in Dallas, will cover the state of New Mexico for Tecumseh.

Both offices will handle manufacturer and supplies wholesaler sales in these states.

### Cooling, Of Course!

OKLAHOMA CITY—Individual air conditioning units will be installed in the 24-unit Motel Beechwood now being constructed here. The \$150,000 motel on N. Lincoln Ave. is owned by F. M. Wilson.



George Bornquist, Bornquist, Inc., and E. J. Gossett, president of Bell & Gossett, are shown with the mobile display of Bell & Gossett equipment. Bornquist is Chicago district representative for Bell & Gossett.

### Bell & Gossett Chicago Representative Carries Equipment Display In Station Wagon

MORTON GROVE, Ill.—Within the last few months over 500 heating wholesalers and contractors in and around Chicago area have had the opportunity to see and inspect products manufactured by Bell & Gossett Co. here. (Forced water heating and cooling equipment, centrifugal pumps, heat exchangers, and refrigeration equipment are the main lines of products manufactured by the company.)

An effective promotion scheme on the local level of "carrying the product to the customer" is being carried out by Bornquist, Inc., district representative in the Chicago area.

"The practice of carrying around samples to show to prospective customers has always been a good

one," explains George Bornquist, "but since we can't expect to carry B&G equipment under an arm, we are doing the next best thing. We are using a station wagon.

"Cut-away centrifugal pumps, heat exchanger, refrigeration components, and hot water heating specialties are mounted on a special platform in the back of the car. Considerable interest has been shown everywhere we go."

### To Cool Bus Terminal

MIAMI, Fla.—According to Philip Howe of Jacksonville, president of Florida Greyhound Lines, work on a "completely modern, air conditioned, and enlarged" union bus terminal in downtown Miami will begin within six months.

**Demand IS FOR**

**CLEANABLE WATER-COOLED CONDENSERS**

1/2 to 25-Ton Capacity

**MORE EFFICIENT DOUBLE-TUBE COUNTER-FLOW DESIGN**

"New unit" efficiency is always maintained with H & M water-cooled Condensers because they are *cleanable*—quickly, economically. Do as the industry does—demand nothing less, for the cost is no more. Write for Catalog.

WHOLESALE IN PRINCIPAL CITIES

**Halstead & Mitchell**

BESSEMER BLDG. • PITTSBURGH 22, PA.

#### WHY WAIT?

Get your new product info pronto. Use coupon on "What's New" page this issue. Use Key No. for fastest service.

**ACCURATE... RUGGED... COMPACT...**

**Bulletin 836 PRESSURE SWITCH**

Available for pressures between 30-in. vacuum and 700 lb sq in. Metal bellows operate a reliable snap action precision switch, which has no levers, hinges, or pivots. Range and differential can be easily adjusted in the field. Also, see the Bulletin 837 Temperature Control. Write for full information. Allen-Bradley Co., 1313 S. First St., Milwaukee 4, Wis.

**ALLEN-BRADLEY**

QUALITY

**MOTOR CONTROL**

# 10 little indians with BIG NEWS

Tecumseh products PRESENTS...

## 5 newly designed HERMETIC COMPRESSORS

for year 'round air conditioning

plus the "ALL NEW" 5 h.p. COMPRESSOR

The latest development in the Tecumseh line is the 5 H.P., four cylinder hermetic compressor. This compressor is designed for high back pressure application and charged with Freon 22. Measuring approximately 18" in height and 14 1/8" in diameter, its compactness is the answer to the manufacturing trend in year 'round air conditioning. Designed for 230 volt, either single or three phase.

MADE TO WORK UNDER THE TOUGHEST POSSIBLE CONDITIONS

COMPLETE LINE OF HERMETIC COMPRESSORS FOR AIR CONDITIONING

FOR AIR OR WATER COOLED APPLICATIONS

SEE THEM AT THE HEATING AND VENTILATING EXPOSITION IN PHILADELPHIA BOOTH No. 62



**TECUMSEH PRODUCTS**

TECUMSEH, MICH.

*Company*

• LEADERSHIP WITH FORESIGHT

The World's Largest  
Producer of Compressors  
for the Refrigeration  
Industry

EXPORT DEPT.: P. O. Box 2280, 24530 Michigan Ave. • W. Dearborn, Mich.



## Major Functions of Water Treatment Specialists Outlined by Los Angeles Expert at Conference

PHILADELPHIA—Specific functions of the water treatment specialist were outlined by R. H. Savage, who operates Water Chemists, Inc., in the Los Angeles area, at the Water Conference held during the 50th annual meeting of the American Society of Refrigerating Engineers here.

"The main problem in the Los Angeles area," Savage first pointed out, "is lime and scale."

This, he indicated, can also lead to corrosion difficulties.

"Four major functions of the water treatment specialist," he explained, are:

1. Condenser cleaning.
2. Contract service to keep the condenser clean.
3. Supervision of operating personnel (on large systems) but no labor.
4. Sales of material to contractors and users, including those firms employing the supervisory service.

In performing contract service,

### PLENTY FOR FREE

For "easy-to-get" product information . . . use coupon on "What's New" page.

Use Key No. for fastest service.

the water specialist, Savage said, must:

- A. Know the condition of the condenser.
- B. Clean dirt out of the system.
- C. Prevent scale formation.
1. Install a bleed. (Control of the bleed is very important, he emphasized.)
2. Hold scale in solution by metaphosphate. It's advisable to check condensers in one month.
3. If steps 1 and 2 fail, use acid to remove the scale.
- D. If necessary, remove heads to check scale condition.
- E. Algae can be a severe problem.

"At present there is no effective algicide that can be applied only at once-a-month intervals," Savage stated. "And very often measures that successfully control algae do not control scale, and vice-versa."

Problems of the individual or firm setting out to do water treatment, either on their own equipment or for others, he said, include the difficulty of training men; equipment needed ("our service trucks carry 1,500 lbs. of equipment"), and materials ("which can be costly if you can't mix your own chemicals").

According to Savage, the water

treatment specialist inadvertently gets help and more business as the result of equipment manufacturers' failures or shortcomings.

"They don't put in a bleed, which helps us. Nozzles that plug up with the least amount of dirt help our business tremendously. Manufacturers should provide access doors that are easy to get into. There should be a sufficient volume of water to keep the system wetted."

"Pumps air-lock in the wrong place. Acid used to remove scale takes off galvanizing also. Drains are improperly located. No chemical feeder on any manufacturer's equipment is satisfactory. Eliminators are hard to get out. Some equipment is very short on surface."

The installing refrigeration contractor, Savage also emphasized, "helps" the water treatment specialist, too.

"Generally the contractor is interested only in construction; he uses poor equipment; he puts access doors in the wrong location; the drain is not right; there's no bleed or an improper one; there are leaks; he fails to tell the user water treatment requirements, and the water volume is not right," Savage declared.

## Views on Common Problems Relating To Treating Water Impurities

*Editor's Note:* One of the highlights of the 50th annual meeting of the American Society of Refrigerating Engineers held in Philadelphia was the Water Conference, which ran all day.

One of the several talks presented at this conference is published in the first three columns of this page. Later issues will contain the contributions of John Engalitcheff, Jr., of Baltimore Aircoil Co.; H. W. Hottel of Harvey Hottel, Inc.; and E. H. Hurst of National Aluminate Co.

Summarized below are reports of some of the other talks given at the conference.

### Chemical Treatment Is Relatively Inexpensive

PHILADELPHIA—"Air conditioning and refrigeration equipment may be mechanically and electrically correct but still fail—due to water problems," asserted J. I. Montel of Hammond-Montel, Inc.

"Many users postpone preventive treatment until a breakdown occurs."

"We survey equipment, analyze the water, and look for leaks in water lines, etc. Leaks increase the cost of chemical control and defeat the purpose of water conservation."

"Chemical treatment is only as good as its control, but the cost of chemical treatment is only a fraction of the interest on the capital investment of the complete system."

### 'Magic Gadgets' Have Never Succeeded

Use of "magic gadgets" for water treatment was derided by Dr. E. P. Partridge of Hall Laboratories, Inc., who declared that "none of these gadgets from 1865 to the present has ever worked," and "none has been adopted by a recognized company."

According to Dr. Partridge, "the batting average on eight gadgets over a period of 15 years has been rather consistently negative. We have found one example of an apparently successful application, but we've also found hundreds or thousands of applications that don't work."

"One kind of carbonate scaling can be interfered with easily under some conditions," he admitted. "But we have yet to see any gadget prevent corrosion."

"Many gadgets are so made that they feed zinc to water. Or if iron is added to the water, it can precipitate sulphate throughout the water instead of on surfaces."

"Some of you," he declared, "have been agents for these gadgets and have had customers tell you of good results. But if you had kept going back to these cus-

tomers you might feel a little uneasy about it."

Dr. Partridge also drew an analogy between the promoters of water treatment "gadgets" and a hypothetical firm peddling "green cheese from the moon."

"This is a free country. You can say the moon is made of green cheese. But you probably wouldn't be permitted to sell stock in the Lunar Cheese Corp."

### Questions Answered At Conference

Among the questions (and answers) brought out at the Water Conference were:

Q.—Is there any electrolytic action as the result of using aluminum in an evaporative condenser?

A.—You can't use aluminum for the casing because alkali in the water will eat away the aluminum.

Q.—Is there any advantage in using bare coils instead of fin coils in evaporative condensers?

A.—Fins prevent 100% coverage of the coil by water. This permits scaling. Only one or possibly two manufacturers are using fins now. One member of the panel commented: "I've seen finned evaporators so clogged up that the flow of air actually held the water up without letting it go through the coils."

Another panel member added: "That suspension can occur in any piece of water conserving equipment. It depends on the proportion of air-to-water loading."

Q.—Where you have to maintain a constant head pressure, do you recommend shutting off the air or the water?

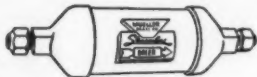
A.—"It's better to shut off the water," said a panel member. "I haven't observed too much trouble of scaling with turning the water on and off."

Said a panel member: "If scale builds up by cycling of water, it's not likely to be removed by the same method (cycling the water) that created the scale. However, when you build up scale under continuous operating conditions, the thermal shock of turning the water on and off may help remove the scale."

Commented a member of the audience: "Water-saving equipment is an enigma and necessary evil to the customer, but customers neglect it. Manufacturers supply the necessary information and instructions about operation and water treatment, but often these wind up in the files and never get to the actual operating engineer."

"Most tower manufacturers," declared Fred Hodgdon, "we found in our survey of 46 users, don't give instructions along this line."

## Let's get the facts straight about driers



IT SEEMS that the time has come to get a few facts straight about refrigeration driers . . . about what they will and won't do . . . and the validity of some of the claims made for different types. What is happening in the drier field has happened, and will continue to happen, to every group of products manufactured by American Industry . . . and the malady is best described as "exaggerated claimitis." Periodically it creeps into everything from motor oil to television and we're sure you've been well bombarded by the "loud claimers" at one time or another. You know the kind of stuff we mean . . . "use super pills and you won't have to change oil in your car for 50,000 miles" . . . "cures everything with just one bottle" . . . "does a bigger, better, faster, cheaper job than any other tool on the market." When basic facts are distorted to make a plausible story, "exaggerated claimitis" has set in.

Now let's talk about driers. A drier, dehydrator or call it what name you will, is hardly as mysterious in operation as a nuclear reactor. It's a simple, highly important device that is essential to the proper operation of any refrigeration system. Its job is to take out the undesirable elements in refrigerants. The Mueller Brass Co. has been making driers for over 35 years and naturally we feel that we know a little bit about them. With over 3,000,000 of them in service, we feel that our driers must be fairly good from all viewpoints.

When we say that a drier is rated at 5 h.p. we mean just that . . . not 4¾. When we say our driers are skillfully engineered and carefully produced we mean it. We want you, as our customers, to believe what we have to say . . . which now brings us around to the word "acid" which seems to be a brand new discovery to everybody in the business.

Moisture is the biggest enemy of successful refrigeration performance . . . with sludge next in line. Acid, which can form only under certain set circumstances, is a comparatively minor problem. But, since there seems to be a real

scare campaign on the evils of acid, let's delve a little further into the subject. We've been well aware of the fact (for the past 35 years, anyway) that hydrochloric acid can sometimes form through the hydrolysis of Freon and, naturally, it should be removed from the refrigerant. Removal of such acid is merely a matter of course, not an all-out battle such as some manufacturers seem to think is necessary. For acid removal, the PA 400 Super Silica Gel used in Mueller Brass Co. driers is 100% efficient . . . which makes it a little hard to beat. Couple this with the fact that the PA 400 provides 98% more drying capacity and it would seem that both the moisture and acids have been well handled. When it comes to the second "ugly" word . . . "sludge," we feel that the cone-screen filter-strainer does a pretty fair job because its filter area has not only been increased by 30% (and it was big before!) but also gives 7 times the cleaning capacity of the filter or strainer device used in ordinary driers.

Now let's look into drier designs for a moment. Basically a drier is a cylinder containing a desiccant, and has varying methods of filtering and straining the refrigerant which flows in one end and out the other. Straight-through flow naturally presents less restriction in the line . . . you can put all sorts of angles and bends in a drier but you aren't helping the cause one bit. The drier is to help not hinder . . . and a straight line is the shortest and least restricted distance from the inlet end to the outlet.

We have touched on many things in this discussion of driers, but, as we said before, there's nothing so mysterious about the operation of a drier that warrants raising a lot of fuss and feathers about that bogey-man, "acid." It is purely a severe case of "exaggerated claimitis" because acid never was allowed to become important when Mueller Brass Co. driers were on the job.

We hope we've gotten a few facts straightened out, and thanks for your reading attention . . .

The Mueller Brass Co.

138

**MUELLER BRASS CO.**

PORT HURON 9, MICHIGAN

**Filtrine**  
"Taste-Master"  
PURIFIERS  
for  
WATER -  
COOLERS  
ICE MAKERS

Stop . . . rust, dirt  
chlorine taste  
... service  
breakdowns  
due to rust  
& sludge

Insures service satisfaction for all  
coolers, ice-makers! Clear, taste-  
free water . . . crystal ice . . . every  
day . . . in all locations.

FILTRINE MFG. COMPANY  
53 LEXINGTON AVE. • B'KLYN 38, N. Y.

**MARSH**  
Instruments

THE SERVICEMAN LINE of Testing  
Gauges, Testing Thermometers, Tim-  
ers, etc.  
PRESSURE GAUGES and Dial Ther-  
mometers for all services.  
MARSH-ELECTRIMATIC, Water Regu-  
lating Valves, Solenoid Valves.  
MARSH INSTRUMENT COMPANY  
Sales Affiliate of J. P. Marsh Corporation  
Dept. D, Skokie, Ill.



## Refrigeration Problems and their solution

by Paul Reed

For Service and Installation Engineers



Paul Reed

### Cleaning Air

True air conditioning for human comfort must not only cool or heat the air to a comfortable temperature, but it must also control the moisture content, keep the air in gentle motion, and last but not just as important, the air must be cleaned.

In the instalment of this column of Nov. 11, 1954 entitled "This Air In Which We Live," we mentioned that air is a complex mixture of gases and tiny particles of solid matter, some of the latter being living organisms: insects, bacteria, and molds.

### WHAT AIR CLEANING INVOLVES

Ideally, in order to completely purify the air, we would remove everything except oxygen, nitrogen, carbon dioxide, ozone, and a few other gases that are present in very small amounts. Actually, men and animals do not need the nitrogen which constitutes about four fifths of the air. It serves only to dilute the oxygen which constitutes about one fifth, and which, by itself, would be too "rich" for men and animals to breathe.

There are three main methods of cleaning the air in air conditioning systems: filters, air washers, and electronic precipitators. There are numerous variations in the application of these three methods, and numerous types of cleaning equipment used in each of the methods.

The choice of the method and variation in the method, and of the equipment, will depend a great deal on how good a cleaning job we want to do, need to do, or can afford to do on the air; on the particle size, type, and quantity of the material to be removed from the air; and on the size and type of the air conditioning equipment itself.

### AIR FILTERS

This is the most common type of equipment for cleaning air. The air filter is made by a number of manufacturers, in a wide variety of types, shapes, and sizes and of several kinds of materials, the most common of which are glass or vegetable fibers, paper, cloth, or metal sheets or grids.

The filter works on the principle of "impingement." The filtering material is forced into thin pads placed in the air stream ahead of the evaporator. In passing through the filter, the air is deflected many times, and each time, the particles of dirt strike the filtering material, lose velocity, and are separated from the air stream.

Air filters are divided into two classes: the dry type and the viscous type. In the dry type, the filtering material is porous, or its fibers form a maze of small passages, and the dirt, etc., lodges in the pores or mazes of the material. In the viscous type the filtering material is coated with a "viscous," sticky film, to which the dirt and other impurities adhere.

The filtering material may be formed in a wide variety of shapes according to the design of the manufacturer of that particular filter. It may consist of criss-crossed fibers, staggered flat sheets, sheets formed into V shapes, overlapping grids, or any similar arrangement designed to form a maze of winding passages, and to cause the air to be broken

up and change direction many times. Each time it is deflected, the dirt impinges on the filtering material, and some of it stays on the material.

In some designs, particularly those employing criss-crossed fibers, the fibers are packed more loosely on the entering air side and progressively more tightly through the filter. This is to prevent the heavier accumulation of dirt, lint, etc., on the entering side from clogging the surface, but rather to be distributed "in depth." Care should be taken to properly install filters marked with arrows showing the direction of air flow through the filter.

Either the dry type or the viscous type filter finally becomes "loaded," that is, the surface of its filtering material becomes entirely covered with dirt, lint, etc. Its pores become filled or its viscous film becomes coated, so the filter gradually loses its ability to remove and retain the dirt. This results in three conditions, any of which are very harmful to the efficiency of the air conditioning system.

### EFFECTS OF DIRTY FILTERS

1. The air is no longer cleaned adequately, the ducts become dirty, and dirt gets out into the occupied spaces.

2. The dirt, lint, and other particles will pass on to the evaporator coil. The wet surfaces of the coil are rather good filters themselves, so they become coated with the particles that have gotten through the filter. This tends to insulate the coil surfaces, reducing their rate of heat transfer, and cuts the capacity of the evaporator and of the entire installation.

3. When the filter becomes loaded with material that it has taken from the air, the air passages through the filter are restricted, and the pressure drop through the filter rises, and the amount of air circulated is sharply reduced.

The air is what carries the heat from the room to the evaporator, and if the amount of air to the evaporator is reduced because of a dirty filter, the load on the evaporator is reduced. However, the condensing unit still retains its capacity, so the suction pressure drops to enable the condensing unit capacity to match the reduced load on the evaporator.

Thus, one of the quickest ways to spot a dirty filter is by a lower-than-normal suction pressure. A low suction pressure reduces system capacity and efficiency, and either increases the running time, or if the system runs continuously, may result in the system not being able to maintain the desired temperature. It is therefore good economy to keep clean filters on an air conditioning system.

The above will also explain why

it is bad policy to run the system with the filters out. This will allow the evaporator coil to get fouled, and thus reduce its capacity. Anyone who has had to clean a dirty evaporator on an air conditioning system knows what a job it is. The fins are set close together and stop up quickly, and they are very difficult to clean. Moreover, dirt, lint, etc., get down into the drain line and stop it up.

If the filters on a system are dirty and you do not have new ones with you, do not remove them and continue to operate the system without them, even temporarily. In such a case, tap out all the dirt you can, or clean the filters with a vacuum cleaner, and put them back into use temporarily until clean ones can be obtained.

By all means, be sure to get dirty filters, temporarily cleaned, back in with the air flow in the same direction! Be careful not to get them turned around.

### CLEANABLE AND THROW-AWAY FILTERS

Some filters are designed to be cleaned and used more or less indefinitely. These may be either the dry type or viscous type. They are usually made with metal frames for more permanence and ease in cleaning and handling.

The throw-away types usually have cardboard frames to reduce cost, for they are intended for one use only and to be discarded instead of cleaned and re-used. It is not usually good practice, nor even economical, to attempt to clean the throw-away type.

When cleaning the cleanable type of filter, be sure to follow the manufacturer's instructions, and particularly, use only the viscous material that he specifies for use in recoating the filter material after cleaning.

Do not use ordinary oil. It is not as efficient as the special liquid used by the filter manufacturer. Moreover, some of it will be carried along by the air stream and deposited on the evaporator and the supply ducts. It is very difficult to remove from the ducts, and even

more important, constitutes a serious fire hazard.

### FILTER EFFICIENCY

The efficiency of a filter is rather difficult to define or measure, for it depends a great deal on what we mean by efficiency and on what we expect the filter to do.

When new and clean, the ordinary dry type or viscous type filter is capable of removing from about 75 to 90% by weight of the dirt or other foreign matter from the air. For ordinary applications, this is quite satisfactory to the average, normal person, but may not be adequate for installations exposed to unusually heavy concentrations of dirt, lint, soot, seeds, or insects, nor for persons suffering from an allergy, asthma, or respiratory ailments.

The air filter is particularly suitable for removing large particles such as those named above, but it is not so effective in removing very small particles such as those comprising fine dust, some of the pollens, tobacco smoke, odors, and fumes whose particle size is roughly about one micron or more in diameter. A micron is equal to about four one-hundred thousandths of an inch. A single particle of that size is not visible to the naked eye, but a few million of them can be objectionable in an air conditioning system.

### Milwaukee Merchant Fined For 'Death Trap' Violation

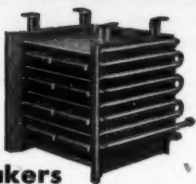
MILWAUKEE — Edward Williams, operator of a second-hand furniture store here, was recently fined \$50 by District Judge Robert W. Hansen for violating the city's abandoned icebox ordinance.

A patrolman told the judge he found an old 8-cu. ft. icebox equipped with two snap lock doors, on the sidewalk in front of Williams' store on a Sunday afternoon. Williams said he and his employees had forgotten to take the box into the store.

Williams was the first person to be fined under the ordinance, passed last Dec. 29.

### Buy Peerless FOR PERFORMANCE

Faster-Freeze  
Finned  
Cube Makers



The PEERLESS Finned Faster-Freeze Cube Maker provides both refrigeration and rapid ice-cube manufacture from a single, balance, compact unit. Its fin coils are standard PEERLESS coils with nonsoldered return bends... the ice-cube maker is standard PEERLESS all-aluminum construction. Easy installation and trouble-free operation are outstanding features; these Finned Cube Makers are available with either copper or aluminum tubing, permitting choice of refrigerants. Plain type cube makers also available. Sizes, capacities for all requirements. Designed to meet government specifications. Write for details.

Peerless of America, Inc.

1501 No. Magnolia Avenue  
Chicago 22, Illinois, U.S.A.

### E-Z-SEE LIQUID INDICATOR



NEW FLO INDICATOR FLAP  
SHOWS ALL FLOW CHANGES

Analyze flow, function of expansion valve, by means of E-Z-SEE sensitive flap, instantly responsive to variations in flow. Positively leak-proof — hundreds of thousands in use.

Available at Wholesalers everywhere

REMCO  
INCORPORATED  
ZELIENOPLE, PA.

on every milk cooler replacement

### INSTALL RANCO...TO BE SURE!

A NEAT JOB

A NEAT PROFIT

**Ranco Inc.**  
COLUMBUS 1, OHIO  
WORLD'S LARGEST MANUFACTURER OF REFRIGERATION CONTROLS

A farmer wants fast service when the milk cooler control conks out. But he wants good service, too. And you can give him both with a Ranco replacement control. Your service job is speedy—but not makeshift—because Ranco controls are made for the job. No scurrying around for extra parts... no "doctoring up" a misfit. You're sure of a greater profit because service time is trimmed to the bone. And you're sure of a happier customer because Ranco cooler replacements perform flawlessly... keep milk temperature just right regardless of warmer or colder exterior temperatures. Remember Ranco... see your Ranco wholesaler... to be sure.

### Ranco Replacement Reference.

No. 1544 lists almost 5,000 replacement controls... the most complete line in the industry. Purchase your copy of this big new manual from your Ranco wholesaler now.

### Only the NEW PA 400 gives you all these qualities!

### Comparison of PA 400 and competitive desiccants

	PA 400	Competitive Desiccant		
		A	B	C
High Reserve Capacity	yes	no	no	no
Pre-attitred	yes	no	no	no
Low Pressure Drop	yes	yes	yes	no
Adsorbs Water Physically instead of Chemically	yes	no	yes	yes
Non-dusting	yes	no	no	yes
Adsorbs Acids	yes	no	yes	yes
Will dry Freon 12 to below 2 ppm at 120°F	yes	no	yes	yes

\*T.M. Reg. Applied For

And PA 400 has up to 98% increased moisture adsorption capacity. See your jobber today or write.

SEE YOUR  
JOBBER TODAY  
OR WRITE TO  
DAVISON

Progress Through Chemistry

**DAVISON CHEMICAL COMPANY**  
Division of W. R. Grace & Co.  
BALTIMORE 3, MARYLAND

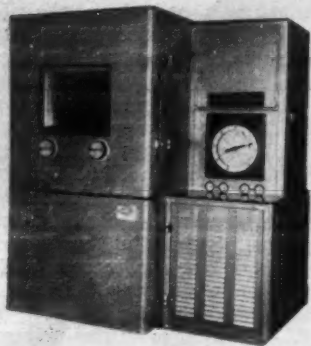
Producers of Catalysts, Inorganic Acids, Superphosphates, Single Superphosphates, Phosphate Rock, Silica Gels and Silicic Acids. Sole Producers of DAYCO® Activated Carbon.

PA  
400



## What's New

When requesting further information on new products, please use "Information Center" form.



### Climatic Chamber Speeds Testing of Wire, Cable

KEY NO. D-1240

HOLLAND, Mich.—A compact new climatic test chamber has been designed by Conrad, Inc. here for rapid, exact temperature tests of wire and cable under varying conditions or cycles.

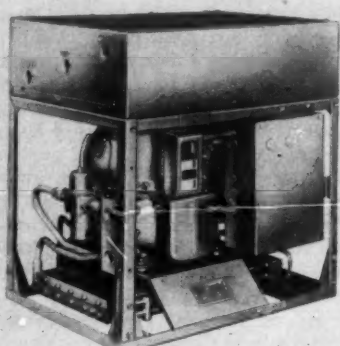
The chamber is equipped with mandrils from 1/8 in. to 18 in. in size, with externally mounted turning devices and reduction gears. Position locks and hand access ports are standard equipment.

Temperature cycles can be automatically controlled between 300° and -100° F., or held at fixed points within this range, as needed.

This Conrad, Inc. chamber is designed for tests in accordance with Signal Corps, Air Force, or CAA requirements.

The test chamber has sufficient height so that straight lengths of wire can be suspended from the mandrils. Instrumentation and controls can be varied.

The "Freon-13" and "Freon-22" cascade system, which was pioneered and first made commercially available by Conrad, Inc., is used.



### Compact Liquid Chiller Has Variety of Uses

KEY NO. D-1241

DETROIT—Cool-Ette, Inc. here has introduced a compact liquid chiller that "performs well on a variety of different jobs."

Equipped with either air or water-cooled condensers, these units are manufactured in 2-hp. and 3-hp. sizes with all components assembled within a rigid steel frame measuring 23 1/4 in. wide, 17 1/4 in. deep, and 26 1/8 in. high. A 5-hp. unit will also be available.

"The units may be used in combination with a hot water boiler and convactor units to produce year-round air conditioning with a forced hot water heating system in homes and small commercial establishments," the company said.

"Commercially, Cool-Ette liquid chillers may be used as sweet water or drinking water chillers. The small amount of floor space required permits them to be located with a minimum loss of valuable sales or storage space.

"Type WC Cool-Ette chillers are

equipped with all necessary devices to protect them against freezeup of the evaporators and over-pressures, as well as to protect the motors against overloads. The hermetically sealed compressor, together with the other components, are factory assembled, piped, wired, and tested to assure minimum field service.

"The chillers are furnished for 220-volt, 60-cycle, single-phase or 220-volt, 60-cycle, three-phase operation and complete with the necessary controls," according to the company.



### New Supermarket Shelving Offered at Lower Price

KEY NO. D-1242

GRAND RAPIDS, Mich.—New shelving equipment at new low prices for supermarkets has been announced by the Bulman Co., Inc. here.

According to Irving Folger, vice president in charge of sales, the reduction in prices was made possible because of recently installed conveyorized production lines and increased volume runs of stock units, use of newly-designed "I beam" standards, new bottom shelf construction, and the use of tempered Masonite for making back panels.

"Feature-wise," Folger commented, "the new 'C' line offers several improvements without sacrifice of quality. The new patented I beam construction saves floor space, and increases strength. Finer shelf adjustments have been accomplished and wider lance holes make it easier than ever to adjust shelves. This is still accomplished," Folger stated, "with our exclusive one-piece bracket—no tools, nuts, or bolts.

In addition, shelf depths have been engineered to the stock sizes to eliminate wasted space and the unsightly look of stock projecting over the shelf edge.

"All the Bulman features have been maintained," he continued, "such as the reversible shelf, Bonderizing, super hard baked enamel finish, and the price tag molding permanently part of the shelf."

## Guide to Stories Which Ran In the News In '54

**Editor's Note:** Following is a listing of some of the stories and articles which appeared in the News during 1954. This is by no means a complete summary of all articles, but rather some of the more significant stories. They are noted by the headline under which they appeared and are classified by general subject matter.

Copies of some of the issues are still available at 40 cents for a single copy; ten or more copies, 30 cents each; 50 or more copies, 20 cents each. Please see the accompanying box for a listing of available issues.

### Air Conditioning

#### GENERAL

Cooling, Dehumidifying Controls—Theory of Controlling Coils for Air Conditioning Outlined. Illustrated by Kahler of Trane Co. Jan. 4, p. 30.  
Control of Humidity with Unit Conditioners—Close Regulation Possible with Proper Damper Controls. Reheat Coils: Two Installations Compared by Kline of Frick. Feb. 15, p. 20.  
'Bright Future' of Industry Is Described in Detail—Hess Talks About New Food Applications—Lawler Forecasts Accelerated Air Conditioning Growth—Jones Sees Special Kind of Sales Effort Needed. March 22, p. 1.

Insulation in Air Conditioning—How Far Should the Designer Go to Prevent Possible Condensation on Ducts? Stone Offers Some Suggestions. March 22, p. 24.  
How Advertising Helps Contractor—Consultant Tells How Live Leads for Air Conditioning Sales Can Be Cheaply Developed by Proper Use of Direct Mail. April 9, p. 16.

Load Calculations (1)—Theory and Practice of Making Cooling, Dehumidifying Estimate Outlined. Part I. April 9, p. 8.  
(2) Part II. April 26, p. 13.

(3) Part III. May 3, p. 18.  
Cooling Seen as Aid in Resisting Disease. Mental Fatigue; Cold Air Not Cause of Colds. May 10, p. 6.

Equipment Selection—Factors in Selecting Equipment Outlined for Air Force Engineers at Conference. May 10, p. 21.

Equipment Arrangement—Proper Layout of Air Distribution System and Equipment Vital for Successful Job, Air Force Engineers Told. Part I. May 17, p. 12.  
Part II. May 24, p. 12.

Control Systems—How Various Types of Controls Function in Air Conditioning Explained at U. S. Air Force Engineers' Conference. Part I. June 7, p. 26.  
Part II. June 14, p. 18.  
Part III. June 21, p. 20.

Air Conditioning Dealers Find Sales Ahead of Last Year Despite Unseasonable Weather—N. Y. Firms Confident—If Hot Weather Comes—Chicago Dealers Expect Banner Sales Season. June 14, p. 1.  
Phenomenal Growth of Air Conditioning Presents Some Serious Problems for Electric Utilities. Aug. 2, p. 14.

Cooling Tower Design, Application—Selecting Equipment Which Meets Customer, Engineering Requirements. Part I. Oct. 25, p. 12.  
Part II. Nov. 1, p. 14.  
Part III. Nov. 8, p. 20.

Roof-Top Packaged Air Conditioners—'Alco' Airmaster Units' Designed for Outside Installation on Roof of One-Story Buildings. Nov. 8, p. 13.  
Making Your Advertising Dollar Work. Nov. 29, p. 8.

Water Conference Discusses Elimination of Impurities. Dec. 20, p. 13.

#### COMMERCIAL

Use of Packaged Units Solves Problems of Air Conditioning New Offices in Old Building. Jan. 4, p. 14.  
Selling Packaged Units Profitably Requires—First Rate Salesmanship—Engineering Know-How—Good Service—Financial Horse-Sense. Feb. 1, p. 18.  
Evaporative Cooler Development Cuts Out Direct Water Contact. Feb. 8, p. 10.  
Southern Style Sausage—Refrigeration. Air Conditioning Provide Low Temperature Humidity Necessary to Success.

fully Process. Store Pork Specialty. Feb. 15, p. 12.

Year-Round Air Conditioning for New Hospital—Central System Provides Comfort for Surgery, X-Ray, Nursery. March 1, p. 12.

Hotel Laundry Combats Personnel Turnover—Curtain of Cool, Dry Air Cuts Absenteeism: Now There Are More Applicants Than Jobs. March 1, p. 27.

Air Conditioning Atlanta's Newest Station Gives Distributor Clean Sweep of Market. March 22, p. 20.

Evaporative Cooling—Engineering Approach to Subject Analyzes Advantages. Limitations for Air Force Conference. Part I. April 5, p. 13.

Part II. April 12, p. 54.  
Part III. April 19, p. 30.  
Air Conditioning Helps Many Industries

#### Available Issues

For those who are interested in purchasing extra copies of the 1954 NEWS, issues for the following dates are available at 40 cents each and quantity rates: Jan. 25; Feb. 8, 15, 22; March 1, 8, 15, 22, 29; April 12, 19, 26; May 3, 10, 17, 31; June 7, 14, 21, 28; July 5, 12, 19, 26; Aug. 2, 9, 30; Sept. 6, 13, 20; Oct. 4, 11, 18, 25; Nov. 1, 8, 15, 22, 29; Dec. 6, 13.

to Improve Products and Speed Output. May 17, p. 28.

Building Design—Structures Should Be Planned with Air Conditioning as an Integral Part, Not as an Afterthought. Kreutner Tells Building Research Group—June 21, p. 10.

800,000 Non-Cooled Hotel Rooms Provide Lucrative Market. Aug. 30, p. 2.

Air Conditioning Allows Bank to Increase Floor Space by 29% in 44-Yr. Old Building. Oct. 11, p. 14.

10 Benefits that Food Stores Get from Installing Air Conditioning. Outlined for NCRSA by Hughes. Nov. 22, p. 5.  
Big Building Improvements To Create Spectacular Opportunities. Dec. 13, p. 17.

#### HEAT PUMP

Operation, Servicing of Air-to-Air Heat Pump. Jan. 4, p. 12.

Heat Pumps Unlimited—Factories, Commercial Buildings Waste Heat and Cooling Water that Could Be Used to Cut Fuel Bill. Canadian RSES Hears. March 22, p. 26.

Heat Pump Systems in Bank Buildings Reduce Construction, Operating, Redecorating Costs. April 19, p. 15.

Unit On Turntable Heats or Cools—25-Ton Heat Pump for Chicago Industrial Lab. Grew Out of Explanation Given Owner by Contractor. June 7, p. 12.

#### ROOM COOLER

Those Who Have Lived in Air Conditioned Homes Are Enthusiastic. Survey Indicates. March 1, p. 19.

Vital Views & Facts on Residential Air Conditioning Come Out During Open Forum Staged by ASRE Section—Finance, Building, Manufacturing, Engineering Represented on Panel. March 29, p. 8.

Builder Says Air Conditioning Is Not (Continued on next page)

## Information Center

For more information on What's New products, current literature and catalogs available, equipment advertised in AIR CONDITIONING & REFRIGERATION NEWS use Key Numbers where designated or specify products advertised and we'll see that you receive this information promptly.

### What's New or Current Literature Available

Key No. ....	Key No. ....
Key No. ....	Key No. ....
Key No. ....	Key No. ....
Key No. ....	Key No. ....

Products Advertised  
(list name, page, and issue date)

(PLEASE PRINT PLAINLY)

Name ..... Title .....  
Company .....  
Street .....  
City ..... Zone ..... State .....  
Type of Business .....

MAIL THIS FORM TO

AIR CONDITIONING & REFRIGERATION NEWS  
Readers Service Dept.

450 W. FORT ST.

DETROIT 26, MICHIGAN

compare this



## two-decker Super Merchandiser!

72 qt. cartons or 49 doz. eggs per lineal foot!

#### A SUPER SALESMAN FOR DAIRY PRODUCTS!

The two-decker Super Merchandiser is new... yet its money-making merits are already proved in significant independents and a number of the country's largest chains. Its capacity is terrific! 49 dozen eggs or 72 quart cartons of milk per lineal foot on the lower display deck, yet the upper deck for impulse sales is easily accessible—has adjustments, too, for heavy and light loads. Write now for complete details.



### WARREN REFRIGERATORS

POST OFFICE BOX 1436 • ATLANTA 1, GEORGIA  
EXPORT DIVISION: 354 S. SPRING ST., LOS ANGELES 13, CAL.

DD installation with 58" Merchandising Canopy is shown. Also available with 49" Merchandising Canopy with vertical mirror. 8- & 11-ft. lengths in beautiful, profitable multi-case construction.



## Guide To 1954 News Stories--

(Concluded from preceding page)

'Open Sesame' To Increase Home Sales. March 29, p. 7.  
'With Tears In My Eyes,' FHA Official Asks for Data on Operating Expenses. March 29, p. 8.  
How Individuals Benefit—People Living In Air Conditioned Homes Far Better Physically, Financially, and Mentally. Survey Finds. April 19, p. 28.  
Capital 'Lodging' Place Users of Room Coolers Required to Register. May 24, p. 1.  
Fan Motors for Room Conditioners—Steady, But Slow Progress In Improving Performance, Design of Small Motors Predicted by I. E. Ross of G-E. Aug. 23, p. 6.  
Reverse Cycle Heating In Room Units—Loveley, Chief Engineer of Airtemp, Sees Field Open for Use In Room Air Conditioners of 1 Hp. or Under. Sept. 20, p. 8.

### STATISTICS

'53 Sets Record—Detroit Installations of Air Conditioning Skyrocket to New High Nearly Double 1952; Residential Jobs Up Sharply. March 8, p. 16.  
Detroit Air Conditioning Sales—Residential and Commercial Installations for First 5 Months of '54 17% Ahead of Record-Breaking 1953. Oct. 11, p. 18.

### TRANSPORTATION

7 Fundamental Requirements of an Automobile Air Cooling Unit Outlined by Manufacturer. Nov. 8, p. 6.

### YEAR-ROUND RESIDENTIAL

Water Conservation Methods—4 Ways of Cutting Water Consumption In Residential Air Conditioning Systems Explained by Matthew Lawler of Worthington Corp. Jan. 4, p. 24.  
Air-Cooled Packaged Air Conditioning—Performance, Operating Data for Year-Round Residential Units In Dayton

Indicates Advantages over Water-Cooled Systems. Jan. 25, p. 18.  
Builder Views on Air Conditioning—Enthusiasm Grows for Residential Cooling as Sales Feature and Additional Data Is Gathered About Reducing the Heat Load. Feb. 1, p. 16.  
Zoning Lets 1-Hp. System Cool Home at Low Cost. March 8, p. 6.  
Engineer Questions Slide Rule Data for Air-Cooled Residential Units. March 22, p. 14.  
Forum on Residential Air Conditioning Pinpoints Potential Problems Involved. April 5, p. 10.  
50% of Jobs 'Nothing Short of Appalling,' Claims Engineer After Research In Texas. April 5, p. 11.  
Question-Answer Session Points Need for Vapor Barrier on Crawl Space Earth. April 5, p. 12.  
Forum on Residential Air Conditioning Brings Up Many Questions—And Answers. April 12, p. 8.  
More Questions—Answers on Residential Air Conditioning as Discussed at Forum. April 19, p. 22.  
Predicting Operating Costs—Method Developed by Carrier Corp. Engineer Claimed to Permit Close Advance Estimate of Power Costs. April 19, p. 14.  
Merchandising Plan—Low Original Cost and Long Term Financing In New Home Makes Payment Low Enough to Minimize Buyer Resistance. June 7, p. 30.  
Engineering Residential Systems. June 21, p. 18.  
Distributor Works Closely with 73 Dealers to Build Impressive Residential Sales ? ? ? ? ?  
How Contractor Reduced Original, Operating Costs In Year-Round System for New Homes. Oct. 4, p. 8.  
What Happened In Residential Air Conditioning In '54 In Wichita. Oct. 18, p. 8.  
50-Year-Old Home Made Completely Comfortable—\$10,000 Conversion Job Used One 5-Ton Water-Cooled System, 5 Window Air Conditioners; Customer's Restrictions Pose Unusual Problems. Nov. 1, p. 9.  
Blower Installation, Service—Step-by-Step Procedure for Proper Handling of Vital Component of Residential Air Conditioning System Outlined. Nov. 15, p. 20.  
What Happened In Residential Air Conditioning In Memphis In '54—Of 344 Units Installed 130 Went Into New Homes, 206 Into Existing Homes, and 8 Into Speculative Projects, Survey of 34 Contractors Shows. Nov. 29, p. 12.  
'Crying Need' To Tell Residential Air Conditioning Story—3 Ways To Expand Market. Dec. 6, p. 7.

### Commercial Refrigeration

#### GENERAL

More Plastics In Refrigerators—Objections, Problems In Plastic Parts Being Solved by Research, Cooperation, ASRE Conference Hears. Jan. 4, p. 10.  
Hermetically Sealed Terminal—Glass-to-Steel Terminals Described by Fusite Officials as Final Step In Making Hermetic Compressors Completely Sealed. Jan. 4, p. 31.  
Open Case Merchandising—Dairy Manufacturers Hear How Open Display Cases Have Changed Selling Techniques—How These Can Help Industry Succeed. Part I. Jan. 4, p. 28.  
Part II. Jan. 11, p. 8.  
Selling Refrigeration to Chains—McMillan of Hussmann Discusses Firm's Policy of Selling at Net Cash Price, Why This Method Has Helped Create Solid Manufacturer-Distributor Relations. Jan. 18, p. 20.  
Rebuilding Units 'Refrigeration Specialists' Combine Reworking of Compressors on Wholesale Basis with Retail Sales, Service. Part I. March 8, p. 22.  
Part II. March 15, p. 24.  
Evaporator Performance With Inner-Fin Tubing—Paper Presented by Boling Describes Effect on Heat Transfer of Fins In Refrigerant Passage. March 15, p. 18.  
Nussbaum Discusses Pressure Drop, Distribution. March 15, p. 20.  
Boling's Reply to Prepared Discussion on Paper Discussing Inner-Fin Tests. March 15, p. 20.  
Floor Discussion on Inner-Fin Paper. March 15, p. 20.  
How to Use Storage Units—Ice Accumulator Systems Offer Large Tonnages of Refrigeration for Short Periods for Product Cooling, Industrial Processing. March 22, p. 10.  
'Bright Future' of Industry Is Described In Detail. March 22, p. 1.  
Bureau of Standards Engineers Develop Method of Determining Water Content In Circulating Fluorocarbon Refrigerant. March 22, p. 12.  
'F-22' Characteristics and Factors In De-

signing System for Refrigerant Outlined by Lawrence. March 29, p. 13.  
How To Use Storage Units—Ice Accumulator Systems Offer Large Tonnages of Refrigeration for Short Periods for Product Cooling, Industrial Processing. March 29, p. 14.  
Approaches to the Export Market Today—Maurice Zalko, Veteran In the Commercial Field, Discusses Salient Features In Selling Refrigeration Equipment To Customers Around the World. May 17, p. 24.  
Food Irradiation—Process May Have Wider Use In Preserving Refrigerated Foods Than In Keeping Uncooled Foods, MIT Professor Predicts. May 24, p. 10.  
Detroit Commercial Sales—Refrigeration Contractors Installed 1,436 Condensing Units In 1953; 129 Firms Make Installations in 930 Establishments. June 7, p. 14.  
Self-Service Trend In Supermarkets—36% Have Fully Converted 4 Major Departments, SMI Members Report; Regional Differences In Switch Noted In Survey. June 21, p. 7.  
Financing Methods—Commercial Distributor Prefers Coin Meters, But Also Uses Trade-Out Items as Down Payment, Pyramid Contracts, Bank Rebates, and Lease Agreements. Nov. 22, p. 8.  
Good Management Is Most Important Factor To Success. Dec. 6, p. 18.  
Long Term Financing for Supermarkets Should Be Avoided by Distributor, Mfr. Dec. 13, p. 18.  
Building and Using Your Sales Force. Dec. 20, p. 6.

#### APPLICATION

Refrigerated Apple Storage—Contractors Treatise Shows Advantages; How It Adds to Storage Life; What Are Proper Temperatures, Humidities; What Equipment Is Needed. March 1, p. 22.  
Tallow Processing—With Refrigeration, Acid Separating Operation Is Possible Year-Round Instead of Just During Winter. March 1, p. 23.  
IGA Tells Store Engineers Why It's Best for Independents to Purchase Refrigerated Fixtures from a Commercial Dealer. July 19, p. 14.  
Fishing Fleet Profits with Refrigeration—80 Ships Fitted with Eutectic Plates Allows Longer Trips, Better Tonnage, Higher Prices for Catch and Uses Less Ice, Refrigerant. Sept. 6, p. 8.  
Freezing Bread on Big Scale—Plant Specifically Designed for Commercial Freezing of Bread Products Has 12,000 Cu. Ft. of Storage. Serves Customers In 400-Mile Radius. Sept. 13, p. 14.  
Modern Totem Farms Has Flake-Ice Machine and Walk-In Cooler; Plans To Add Freezing Tunnel. Oct. 11, p. 6.  
Bulk Milk Coolers—Farmers Who Install Them Eliminate Daily Collections, Reduce Labor and Handling Costs, and Get More Sanitary Product, Engineers Hear. Oct. 18, p. 15.  
Apartment House Freezer Rental—Drawer-Type Equipment Eases Space, Electric Loads; Specialty-Selling Firms Best for Placing Equipment, Blast Freeze Survey Finds. Nov. 8, p. 10.

### Freezers, Frozen Foods, Lockers

#### GENERAL

Freezer Owners Reveal: 1. Not One Would Be Without It 2. More Would Like Up-rights 3. Few Would Change Brands. Jan. 4, p. 18.  
How Locker Operator Can Profit with Food Plan. 1. Sound Selling Program Puts Freezer In Home. 2. Good Financing Plan Assures Fewer Problems. 3. Home Economist Improves Customer Relations. Jan. 18, p. 28.  
Why Freezers Are Profit Makers. 1. Successful Food Plan Offers Natural Tie-In. 2. Low Market Saturation Cuts Down Trade-Ins. Feb. 1, p. 11.  
Freezer Owners Give Their Views—Survey Finds Lower Food Bills Enjoyed by 90%; Savings from Bulk Buying, Convenience Factor Rate High as Advantages. April 12, p. 22.  
He Makes Them Want to Sell—Freezer Distributor Dick Scott Sells Selling to Small Town Dealers, Stimulates Them To Stand on Own Feet. May 21, p. 6.  
Offer Frozen Food Plan to Apartment House Dwellers. Oct. 4, p. 1.  
How To Sell Home Freezers—Freezer and Food Must Be Sold Together. Dec. 6, p. 13.  
Four Musts for Successful Freezer Food Plan. Dec. 27, p. 2.

### Household Appliances

Testimony on Senate Safety Latch Bills. May 10, p. 10.  
Refrigeration of the Future—12-Cu. Ft. Box with 3 Ft. of Frozen Foods Space, Smaller Compressor and Condenser, and Fewer Service Problems Predicted for 1960. Sept. 13, p. 10.  
Wholesale Salesmen—How They Work Best—Hotpoint's 'Shirtsleeve' Conference Dig Out Procedures for the Best Possible Job for Both the Distributor and His Customer. Sept. 13, p. 18.  
Fair Trade: Pro and Con—Schwegmann, Sunbeam Clash In Columbia Debate. Nov. 22, p. 7.  
How a House Organ Builds Sales—Keeping Customers Posted on Your Organization and What It Can Do for Them Has Proved a Sound Selling Principle for Equipment Distributor. Jan. 4, p. 32.  
Value of Good Purchase Order—Detailed Account of Merchandise Can: 1. Save Time, Money, Verbal Misunderstandings 2. Avoid Incorrect Items, Amounts, Shipping Dates. Feb. 8, p. 6.  
Demonstration—Key to Success—Dealer Who Sold 1,400 Washers Last Year Does 60% of Selling Outside His Store, Has Less Than 10% of Home Demonstrated Units Returned. Feb. 22, p. 7.  
With Cafeteria-Style Counter, Dealer Meets Customers' Questions with Ready Answers. March 1, p. 10.  
How To Pick Sound Financing Program. What Kind of Insurance, What Controls Dealer Needs. May 3, p. 10.  
This 4-Point Plan Moves Trade-Ins Fast—1. Moderate Allowances, 2. Good Repair Service, 3. Constant Promotion, 4. Careful Sales Check. May 17, p. 6.

### Trade Codes, Regulations, Legal News

Text of Missouri Utility's Memorandum on Adequate Wiring, Installation, Need for Improved Power Factors for Room Coolers. Feb. 15, p. 11.  
How New Plumbing Code Affects Contractors; Inspector Says Detailed 'Specs' Would Help. April 5, p. 20.  
2 Cities Demand Special Room Unit Wiring—Grand Rapids Lets Anyone Install Smaller Units—St. Petersburg Requires Separate Circuit. June 7, p. 1.

### Servicing

#### GENERAL

Rebuilding Units—Refrigeration Specialists' Combine Reworking of Compressors on Wholesale Basis with Retail Sales, Service. Part I. March 8, p. 22.  
Part II. March 15, p. 24.  
Acid Formation In Refrigeration Systems—Some New Thoughts Are Presented In Talk on Causes and Possible Cures for Corrosive Action of Moisture In Units. April 12, p. 50.  
Selection of Defrost Controls. Dec. 13, p. 26.  
Sizing Water Pumps. Dec. 20, p. 14.

### AIR CONDITIONING EQUIPMENT

Use of Proper Service Tools—Service of Heating, Cooling Systems Depends on Correct Adjustment; Clinic Discusses How to Use What Instruments for Maximum Efficiency. April 19, p. 38.  
Blower Installation, Service Step-by-Step Procedure for Proper Handling of Vital Component of Residential Air Conditioning System Outlined. Nov. 15, p. 20.

### REFRIGERATION EQUIPMENT

Why Not Change Parts of Hermetic Systems? History of the Problem and Example of How It Has Been Done. Part I. April 26, p. 18.  
Part II. May 3, p. 22.  
Part III. May 10, p. 24.  
Servicing Self-Service Cases—An Outline of Some of the Proper Approaches to Installing and Maintaining Refrigerated Self-Serve Display Cases, Part I. June 7, p. 19.  
Part II. June 14, p. 22.  
Part III. June 21, p. 26.  
How a 'Re-operating Plant' Operates. July 19, p. 24.  
Service Contracts Can Be Profitable—St. Louis Firm's Formula Offers Customer Maximum Financial Security Yet Takes All Precautions to Minimize Costly Service Problems. Oct. 18, p. 16.  
Solenoid Valves—Two Types of Seats and UL Requirements Discussed Before Midwest RSES by Tom Melville. Nov. 1, p. 11.  
Suction Line Controls—Regulators Operated by Internal or External Pilots Are Finding Increased Use, Arley Baker Tells Service Group. Part I. Nov. 22, p. 11.  
Part II. Nov. 29, p. 15.

### REFRIGERATION PROBLEMS AND THEIR SOLUTION

By Paul Reed

Thermometers In Refrigeration Service. Part V. Jan. 18, p. 25.  
Part VI. Jan. 25, p. 15.  
Part VII. Feb. 1, p. 20.  
Question of Compressor Damaged by Liquid Modulation Feb. 8, p. 24.  
Problem In Auto Air Conditioning, Feb. 14, p. 24.  
CO<sub>2</sub> or Nitrogen—Feb. 22, p. 24.  
Cold Water Problems. Part I. March 1, p. 28.  
Part II. March 8, p. 19.  
Part III. March 15, p. 32.  
Part IV. March 22, p. 32.  
Part V. March 29, p. 18.  
Part VI. April 5, p. 24.  
Part VII. April 12, p. 49.  
Part VIII. April 19, p. 51.  
How the Moisture Got In. Part I. April 26, p. 24.  
Part II. May 3, p. 20.  
Spring Inspection. Part I. May 10, p. 28.  
Part II. May 17, p. 23.  
Reed Ask Readers to Revise May 17th Column. May 24, p. 25.  
Part III. May 31, p. 24.  
Part IV. May 31, p. 24.  
Part V. June 7, p. 35.  
Part VI. June 14, p. 24.  
Part VII. June 21, p. 28.  
Water Control Valves With Cooling Tower. Part I. June 28, p. 16.  
Part II. July 5, p. 20.  
95-5 Solder. Part I. July 12, p. 23.  
Part II. July 19, p. 29.  
Manual and Automatic Purgers. Part I. July 26, p. 24.  
Part II. Aug. 2, p. 18.  
Part III. Aug. 9, p. 15.  
Analysis of Novice's Installation. Aug. 16, p. 34.  
School Refrigeration Systems—On or Off? Aug. 23, p. 20.  
A New Compressor Is Born. Aug. 30, p. 15.  
Pressures Within the Compressor Cylinder. Part I. Sept. 6, p. 15.  
Part II. Sept. 13, p. 24.  
Part III. Sept. 20, p. 18.  
A Plant for Freezing and Storing Foods. Part I. Sept. 27, p. 39.  
Part II. Oct. 4, p. 16.  
Part III. Oct. 11, p. 20.  
Replacing the Motor-Compressor. Part I. Oct. 25, p. 16.  
Part II. Nov. 1, p. 16.  
This Air In Which We Live. Nov. 8, p. 24.  
Ammonia as Refrigerant. Part I. Nov. 15, p. 23.  
Part II. Nov. 22, p. 19.  
Part III. Nov. 29, p. 19.  
Part IV. Dec. 6, p. 20.  
Part V. Dec. 13, p. 28.  
Part VI. Dec. 20, p. 16.  
Cleaning Air. Dec. 27, p. 11.

## Cold-Cel TRUCK PLATES



BEST FOR  
LONGER  
HOLDOVER



Keeps frozen or chilled foods fresh and tasty for delivery

APPLICATION Frozen pie cabinet, specially designed by Evercold, mounted in truck behind driver for ready accessibility. HOLDOVER: 3 Cold-Cel TRUCK PLATES mounted vertically. Charged at night by 1/4 h.p. condensing unit.

Cold-Cel TRUCK PLATES are adaptable to any similar installation. May also be employed in mobile or portable food dispensing units.



Get all the facts on Cold-Cel TRUCK PLATES. Write for "Cold-Cels in Action" a pictorial brochure—or Engineering Catalog CE.

DOLE REFRIGERATING COMPANY  
3920 NORTH PULASKI ROAD  
CHICAGO 30, ILLINOIS  
103 PARK AVENUE, NEW YORK 17, N.Y.  
In Canada: Dole Refrigerating Products Limited  
44 Elgin Street, Brantford, Ontario

Maximum Refrigeration Efficiency  
**DOLE**  
THE Cel LINE

**Redmond MICROMOTORS**  
One of largest stocks in the world!  
FACTORY DISTRIBUTORS  
**CYCLO-FREEZE CORP.**  
MARVIN L. "FERGIE" FERRETT  
6318 Cambridge, Mpls. 16, Minn.  
West 9-6794



"Complete line, the perfect set-up for every need," says Clyde L. Copp (left), Typhoon dealer in Tulsa, shown with one of his customers.

**TO GET ON THE MOST PROFITABLE FACTORY-DEALER TEAM IN THE BUSINESS, TIE UP WITH**

**TYPHOON** 505 Carroll St.,  
AIR CONDITIONING Brooklyn 15, N. Y.

• COMMERCIAL AIR CONDITIONERS, 2 TO 25 TONS  
• RESIDENTIAL YEAR-ROUND UNITS FOR GAS OR OIL  
• ROOM AIR CONDITIONERS, 1/2, 1/3, 1/4, 1/5 H.P.  
• PACKAGED HEAT PUMPS, RESIDENTIAL & COMMERCIAL



### LARKIN HALF-TURRET HUMI-TEMP

Efficient operation makes a product easier to sell on one hand; builds solid customer satisfaction on the other. Precision engineering, only the best materials, skilled craftsmanship, and over 25 years experience in commercial and industrial refrigeration add up to higher efficiency for every Larkin product. And this means lower operating costs—important to buyer and seller alike.

Manufacturers of the original Cross-Fin Coil • Humi-Temp Units • Frost-O-Trol Hot Gas Defroster • Evaporative Condensers • Cooling Towers • Air Conditioning Units and Coils • Direct Expansion Water Coolers • Heat Exchangers • Disseminator Pans.

WATCHDOG OF THE NATION'S FOOD SUPPLY

**LARKIN COILS**  
319 MEMORIAL DR., S.E. • ATLANTA, GA.

**NOLIN**  
Leads the Field

**New Dry Beverage Cooler**

- LEADS IN CAPACITY
- LEADS IN QUALITY
- LEADS IN PERFORMANCE
- LOWEST IN PRICE

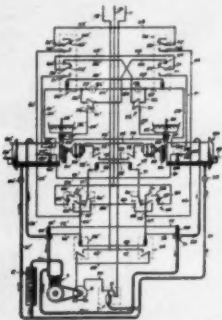
**NOLIN** MANUFACTURING COMPANY  
1403 LLOYD ST. PH. LD. 57  
MONTGOMERY, ALABAMA



## PATENTS

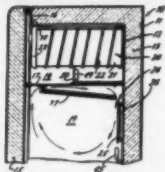
Week of August 24  
(Continued)

2,687,019. DOUBLE-HEADED COMMERCIAL ICE CREAM FREEZER. Harvey P. Swenson, Seattle, Wash. Application Oct. 28, 1951, Serial No. 253,709. 21 Claims. (Cl. 62-4.)



1. In a commercial ice cream freezer, in combination: two freezing heads, a respective refrigeration system for each of said heads including, common to both systems, a single compressor and a single electric motor for driving the compressor, individual normally open electric circuits for the two heads including the motor in each of said circuits, and means operating automatically in response to a closing of either of said circuits for bringing the activated compressor into functioning relation to the refrigeration system of the head to which said circuit is related while isolating said compressor from the refrigeration system of the other head, said circuits each including a respective manually closed switch inactivated automatically upon the expiration of a given time interval.

2,687,060. TWO-TEMPERATURE REFRIGERATION APPARATUS. Lloyd A. Staebler, Oreland, and Sidhartha Banerji, Philadelphia, Pa., assignors to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application April 21, 1952, Serial No. 283,346. 4 Claims. (Cl. 62-4.)

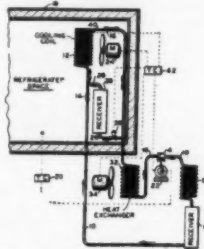


1. Refrigeration apparatus comprising a refrigerator cabinet, a refrigerating system therefor, a first evaporator included in said system and disposed to refrigerate a space within said cabinet, a partition isolating said first evaporator from remaining interior portions of said cabinet, a second evaporator also included in said system and arranged in heat exchange relation with said remaining interior portions to provide a food storage compartment, means for controlling the operation of said second evaporator in response to temperature conditions within said food storage compartment, said partition being disposed in spaced relation with respect to said first evaporator and being constructed of material of relatively high thermal conductivity so as to be affected by the temperature of the air in said food storage compartment, a metallic member spanning the space between said first evaporator and said partition and being disposed in high heat exchange relation with each thereof to provide therebetween a heat conducting link affected by the temperature of said first evaporator and by the temperature of said partition, and means responsive to the temperature of said member to control the operation of said system as a function, jointly, of the temperatures affecting said member.

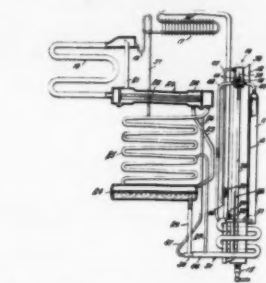
2,687,021. DEFROSTING REFRIGERATING APPARATUS. Argo L. Mattison, Wichita, Kan. Application March 28, 1952, Serial No. 279,131. 6 Claims. (Cl. 62-115.)

1. In a refrigeration system, comprising, in combination, cooling coils, blower means to circulate air cooled by said coils, a compressor, a first conduit for refrigerant connecting the discharge of said compressor with the inlet of said cooling coils and having compressed refrigerant cooling means, refrigerant metering means adapted to meter refrigerant into said cooling coils, and a second conduit for refrigerant connecting the outlet of said cooling coils with the suction of said compressor, that defrosting apparatus which comprises, in combination, a third conduit connecting the inlet of said cooling coils and said second conduit, a receiver in said third conduit adapted to receive liquid refrigerant from said first conduit during refrigeration cycle and from said cooling coils by gravity flow, a control valve in said third conduit between said receiver and said second conduit, and heating means in said second conduit and the point of connection between said

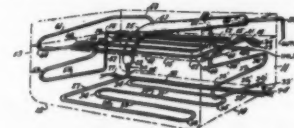
means comprising a source of heat external to the system for heating said first conduit to effect upward movement of liquid therein by vapor lift action under the influence of a reaction head in the system, the wall of said first conduit having openings at spaced apart regions, and second and third conduits communicating with said openings, said openings serving as overflow points through which liquid moving upwardly in said vertically extending conduit passes so as to divide such liquid into a number of separate streams for flow through said second and third conduits communicating with the openings.



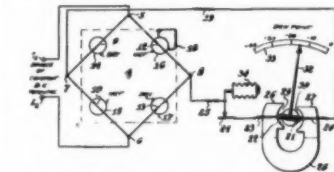
2,687,023. EVAPORATOR FOR HOUSEHOLD REFRIGERATORS. William B. Herndon, Jr., Evansville, Ind., assignor to Seeger Refrigerator Co., St. Paul, Minn., a corporation of Minnesota. Application April 10, 1952, Serial No. 281,552. 6 Claims. (Cl. 62-126.)



1. A defrosting evaporator for comprising a metal casing having a bottom, two side walls, and a rear wall, and a shelf, an angular header of substantial size carried by the rear wall and having a depending leg extending to a point adjacent the bottom, a suction tube extending into the other end of said header and turned upwardly therein, an inlet tube extending into said header and directed away from the suction tube toward the other end of said header, and sinuous coils extending from a point near the bend of said angular header and sinuously down one of the sides, and sinuously from side to side of the shelf, and sinuously down the other side of the evaporator, and sinuously across the bottom of the evaporator to the lower end of the depending leg of said header, the said tubing also including a straight section extending across the bottom near the rear edge thereof, and an electric heater clamped to said latter straight portion in heat conducting contact with the tubing and bottom of the evaporator.

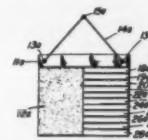


2,687,035. DEWPOINT INDICATOR. Clarke C. Minter, Washington, D. C., assignor to Minter Instrument Corp., New York, N. Y., a corporation of New York. Application Nov. 20, 1950, Serial No. 196,579. 8 Claims. (Cl. 73-17.)



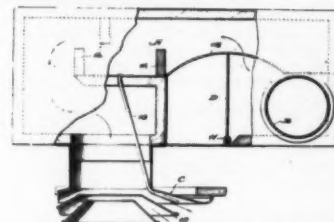
1. A dewpoint indicator for directly measuring the dewpoint of the atmosphere comprising a Wheatstone bridge having a potential difference across its output terminals representing the difference between the thermal conductivity of dry air and that of the moist atmosphere to be measured, an essentially linear scale calibrated in dewpoint temperature degrees, electrically operable means provided with an indicating pointer and operable to cause movement of said pointer over said scale in response to the occurrence of a difference of potential across the output terminals of said bridge, and electrical compensating means responsive to ambient temperature and barometric pressure connected between the output terminals of said bridge and said electrically operable means for moving said pointer to compensate for ambient temperature and barometric pressure variations on said bridge which affects the potential differences across the output terminals of said bridge.

2,687,041. APPARATUS FOR MEASURING HUMIDITY. Frederick O. Anderson, Readington Township, Hunterdon County, N. J. Application Jan. 19, 1949, Serial No. 71,619. 5 Claims. (Cl. 73-335.)



1. Apparatus for measuring humidity comprising a body of a hygroscopic substance which changes its appearance progressively without change of color as it absorbs or loses moisture, and a chart positioned adjacent said body for comparison with said body, said chart being marked with successive graduations corresponding to successive appearances of said body under increasing degrees of humidity.

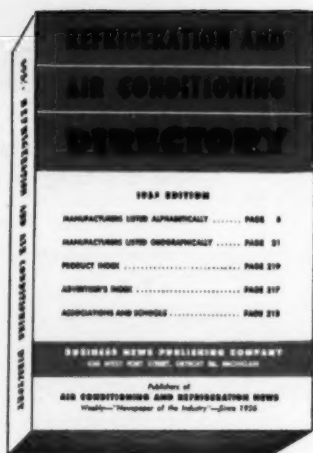
2,687,076. VENTILATING APPARATUS. Leonard E. Phillips, East Hartford, Conn., assignor to Anemostat Corp. of America, New York, N. Y., a corporation of Delaware. Application Nov. 24, 1952, Serial No. 322,263. 2 Claims. (Cl. 96-41.)



1. In a ventilating system including a plurality of air outlet devices and means for supplying to said devices a rate of flow of air approximately equal to their collective rate of flow requirements, an adjustable valve in said air supply means individual to and behind and spaced from each device for regulating the rate of flow of air therethrough, the static pressure in the space between each device and its associated regulating valve being different and definite for each different rate of flow of air through the device and thereby being a measure of the rate of flow of air through the device, and

(Continued on next page)

## JUST OFF THE PRESS



New 1955  
EDITION  
of the  
Refrigeration and  
Air Conditioning  
DIRECTORY

more than 10,000 listings

Throughout air conditioning and refrigeration you'll find a never-ending parade of new people and new products. With the new 1955 edition of the REFRIGERATION AND AIR CONDITIONING DIRECTORY you can keep up to the second in this fast moving industry.

The DIRECTORY contains an alphabetical section complete with names, addresses, and phone numbers of 1,198 manufacturers plus names and titles of key personnel. All companies are also listed by state and by products—more than 10,000 listings combined. This new edition also includes a trade name section. Cross indexed—288 pages.

Ready for mailing—order yours now.

ONLY \$1.00

Prepared by the editors of

AIR CONDITIONING & REFRIGERATION NEWS

Business News Publishing Co.  
450 W. Fort Street  
Detroit 26, Michigan

12-27-54

Rush me ..... copy(s) of the new 1955 REFRIGERATION AND AIR CONDITIONING DIRECTORY, at \$1.00 per copy.

Name .....  
Street .....  
City ..... Zone ..... State .....

MAIL  
TODAY

## Answers "What's New"



RAY ALBERT

"Just a line to tell you that I enjoy reading the NEWS each week. It's one of the best ways to keep in touch with new products, designs, and developments in the industry."

"One question a salesman is asked is 'What's new?' The NEWS can assure his having a good answer. The more of us who read the NEWS, the more we will become qualified as dealers, salesmen, servicemen, and manufacturers."

Ray Albert, Sales Representative  
Vincent Refrigerating & Heating  
Supply Co.  
100 North Second Street  
Minneapolis 1, Minnesota

"Look twice—it's worth the price!"  
AIR CONDITIONING & REFRIGERATION NEWS  
"The Newspaper of the Industry"

## Handy Way To Subscribe

Receive the greatest trade paper in the industry—AIR CONDITIONING & REFRIGERATION NEWS. Published every week. Brings you latest news and vital information on air conditioning, commercial and industrial refrigeration, home freezers, and household refrigeration; manufacturing, contracting, distributing, retailing, and servicing. Only \$6.00 per year, 52 issues.

Fill in coupon and mail today

AIR CONDITIONING & REFRIGERATION NEWS  
450 West Fort Street, Detroit 26, Michigan

Gentlemen: Send the NEWS for one year.

☐ \$6 enclosed ☐ Bill me ☐ Bill the company

Name .....

Company .....

Street .....

City ..... Zone ..... State .....

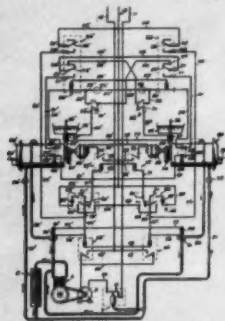
12-27-54



# PATENTS

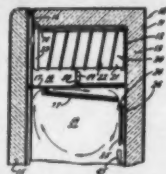
Week of August 24  
(Continued)

2,687,019. DOUBLE-HEADED COMMERCIAL ICE CREAM FREEZER. Harvey F. Swenson, Seattle, Wash. Application Oct. 29, 1951, Serial No. 253,709. 21 Claims. (Cl. 62-4.)



1. In a commercial ice cream freezer, in combination: two freezing heads, a respective refrigeration system for each of said heads including, common to both systems, a single compressor and a single electric motor for driving the compressor, individual normally open electric circuits for the two heads including the motor in each of said circuits, and means operating automatically in response to a closing of either of said circuits for bringing the activated compressor into functioning relation to the refrigeration system of the head to which said circuit is related while isolating said compressor from the refrigeration system of the other head, said circuits each including a respective manually closed switch inactivated automatically upon the expiration of a given time interval.

2,687,020. TWO-TEMPERATURE REFRIGERATION APPARATUS. Lloyd A. Staebler, Oreland, and Sidhartha Banerji, Philadelphia, Pa., assignors to Philco Corp., Philadelphia, Pa., a corporation of Pennsylvania. Application April 21, 1952, Serial No. 283,346. 4 Claims. (Cl. 62-4.)

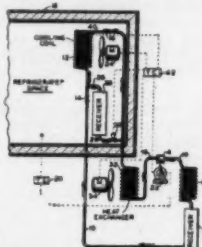


1. Refrigeration apparatus comprising a refrigerator cabinet, a refrigerating system therefor, a first evaporator included in said system and disposed to refrigerate a space within said cabinet, a partition isolating said first evaporator from remaining interior portions of said cabinet, a second evaporator also included in said system and arranged in heat exchange relation with said remaining interior portions to provide a food storage compartment, means for controlling the operation of said second evaporator in response to temperature conditions within said food storage compartment, said partition being disposed in spaced relation with respect to said first evaporator and being constructed of material of relatively high thermal conductivity so as to be affected by the temperature of the air in said food storage compartment, a metallic member spanning the space between said first evaporator and said partition and being disposed in high heat exchange relation with each thereof to provide therebetween a heat conducting link affected by the temperature of said first evaporator and by the temperature of said partition, and means responsive to the temperature of said member to control the operation of said system as a function, jointly, of the temperatures affecting said member.

2,687,021. DEFROSTING REFRIGERATING APPARATUS. Arto L. Mattison, Wichita, Kan. Application March 23, 1952, Serial No. 279,131. 6 Claims. (Cl. 62-115.)

1. In a refrigeration system, comprising, in combination, cooling coils, blower means to circulate air cooled by said coils, a compressor, a first conduit for refrigerant connecting the discharge of said compressor with the inlet of said cooling coils and having compressed refrigerant cooling means, refrigerant metering means adapted to meter refrigerant into said cooling coils, and a second conduit for refrigerant connecting the outlet of said cooling coils with the suction of said compressor, that defrosting apparatus which comprises, in combination, a third conduit connecting the inlet of said cooling coils and said second conduit, a receiver in said third conduit adapted to receive liquid refrigerant from said first conduit during refrigeration cycle and from said cooling coils by gravity flow, a control valve in said third conduit between said receiver and said second conduit, and heating means in said second conduit between said compressor and the point of connection between said

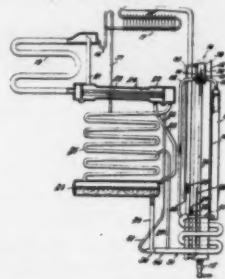
second and third conduits adapted to receive liquid refrigerant from said receiver by gravity flow when said control valve is open during defrost cycle and to vaporize liquid refrigerant passed therein, and said defrosting apparatus being adapted on such defrost cycle to pass vaporized refrigerant from said heating means upwardly through said second conduit, third conduit, control valve and receiver into the inlet of said cooling coil and upwardly through said second conduit into the outlet of said cooling coil.



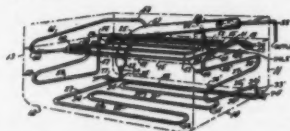
2,687,022. REFRIGERATION SYSTEM EMBODYING PROVISIONS FOR DISTRIBUTING LIQUID. Wilhelm Georg Kogel, Stockholm, Sweden, assignor to Aktiebolaget Elektrolux, Stockholm, Sweden. A corporation of Sweden. Application April 26, 1950, Serial No. 155,156. Claims priority, application Sweden June 23, 1949. 20 Claims. (Cl. 62-119.5.)

1. In an absorption type refrigerating system containing absorption liquid, a first vertically extending conduit having an inlet at the lower end thereof, said first conduit providing a passage in which vapor cannot freely pass liquid therein, means comprising a source of heat external to the system for heating said first conduit to effect upward movement of liquid therein by vapor lift action under

the influence of a reaction head in the system, the wall of said first conduit having openings at spaced apart regions, and second and third conduits communicating with said openings, said openings serving as overflow points through which liquid moving upwardly in said vertically extending conduit passes so as to divide such liquid into a number of separate streams for flow through said second and third conduits communicating with the openings.

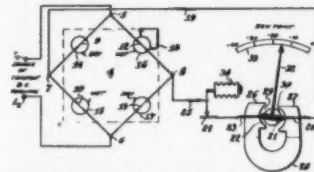


2,687,023. EVAPORATOR FOR HOUSEHOLD REFRIGERATORS. William B. Herndon, Jr., Evansville, Ind., assignor to Seeger Refrigerator Co., St. Paul, Minn., a corporation of Minnesota. Application April 10, 1952, Serial No. 281,552. 6 Claims. (Cl. 62-126.)



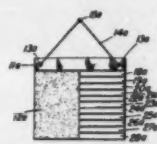
1. A defrosting evaporator for comprising a metal casing having a bottom, two side walls, and a rear wall, and a shelf, an angular header of substantial size carried by the rear wall and having a depending leg extending to a point adjacent the bottom, a suction tube extending into the other end of said header and turned upwardly therein, an inlet tube extending into said header and directed away from the suction tube toward the other end of said header, and sinuous coils extending from a point near the bend of said angular header and sinuously down one of the sides, and sinuously down side to side of the shelf, and sinuously down the other side of the evaporator, and sinuously across the bottom of the evaporator to the lower end of the depending leg of said header, the said tubing also including a straight section extending across the bottom near the rear edge thereof, and an electric heater clamped to said latter straight portion in heat conducting contact with the tubing and bottom of the evaporator.

2,687,035. DEWPOINT INDICATOR. Clarke C. Minter, Washington, D. C., assignor to Minter Instrument Corp., New York, N. Y., a corporation of New York. Application Nov. 20, 1950, Serial No. 106,579. 8 Claims. (Cl. 73-17.)



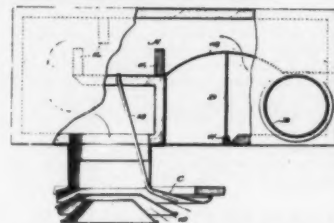
1. A dewpoint indicator for directly measuring the dewpoint of the atmosphere comprising a Wheatstone bridge having a potential difference across its output terminals representing the difference between the thermal conductivity of dry air and that of the moist atmosphere to be measured, an essentially linear scale calibrated in dewpoint temperature degrees, electrically operable means provided with an indicating pointer and operable to cause movement of said pointer over said scale in response to the occurrence of a difference of potential across the output terminals of said bridge, and electrical compensating means responsive to ambient temperature and barometric pressure connected between the output terminals of said bridge and said electrically operable means for moving said pointer to compensate for ambient temperature and barometric pressure variations on said bridge which affects the potential differences across the output terminals of said bridge.

2,687,041. APPARATUS FOR MEASURING HUMIDITY. Frederick O. Anderson, Reading Township, Hunterdon County, N. J. Application Jan. 19, 1949, Serial No. 71,619. 5 Claims. (Cl. 73-335.)



1. Apparatus for measuring humidity comprising a body of a hygroscopic substance which changes its appearance progressively without change of color as it absorbs or loses moisture, and a chart positioned adjacent said body for comparison with said body, said chart being marked with successive graduations corresponding to successive appearances of said body under increasing degrees of humidity.

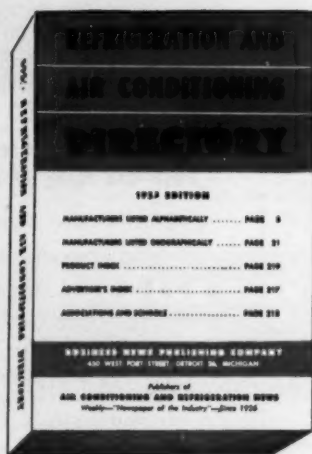
2,687,076. VENTILATING APPARATUS. Leonard B. Phillips, East Hartford, Conn., assignor to Anemostat Corp. of America, New York, N. Y., a corporation of Delaware. Application Nov. 24, 1952, Serial No. 322,363. 2 Claims. (Cl. 98-41.)



1. In a ventilating system including a plurality of air outlet devices and means for supplying to said devices a rate of flow of air approximately equal to their collective rate of flow requirements, an adjustable valve in said air supply means individual to and behind and spaced from each device for regulating the rate of flow of air therethrough, the static pressure in the space between each device and its associated regulating valve being different and definite for each different rate of flow of air through the device and thereby being a measure of the rate of flow of air through the device, and

(Continued on next page)

## JUST OFF THE PRESS



New 1955  
EDITION  
of the  
Refrigeration and  
Air Conditioning  
DIRECTORY

more than 10,000 listings

Throughout air conditioning and refrigeration you'll find a never-ending parade of new people and new products. With the new 1955 edition of the REFRIGERATION AND AIR CONDITIONING DIRECTORY you can keep up to the second in this fast moving industry.

The DIRECTORY contains an alphabetical section complete with names, addresses, and phone numbers of 1,198 manufacturers plus names and titles of key personnel. All companies are also listed by state and by products—more than 10,000 listings combined. This new edition also includes a trade name section. Cross indexed—288 pages.

Ready for mailing—order yours now.

ONLY \$1.00

Prepared by the editors of

AIR CONDITIONING & REFRIGERATION NEWS

Business News Publishing Co.  
450 W. Fort Street  
Detroit 26, Michigan

12-27-54

Rush me ..... copy(s) of the new 1955 REFRIGERATION AND AIR CONDITIONING DIRECTORY, at \$1.00 per copy.

Name .....

Street .....

City ..... Zone ..... State .....

MAIL  
TODAY

## Answers "What's New"



RAY ALBERT

"Just a line to tell you that I enjoy reading the NEWS each week. It's one of the best ways to keep in touch with new products, designs, and developments in the industry."

"One question a salesman is asked is 'What's new?' The NEWS can assure his having a good answer. The more of us who read the NEWS, the more we will become qualified as dealers, salesmen, servicemen, and manufacturers."

Ray Albert, Sales Representative  
Vincent Refrigerating & Heating Supply Co.  
100 North Second Street  
Minneapolis 1, Minnesota

"Look twice—it's worth the price!"  
AIR CONDITIONING & REFRIGERATION NEWS  
"The Newspaper of the Industry"

## Handy Way To Subscribe

Receive the greatest trade paper in the industry—AIR CONDITIONING & REFRIGERATION NEWS. Published every week. Brings you latest news and vital information on air conditioning, commercial and industrial refrigeration, home freezers, and household refrigeration; manufacturing, contracting, distributing, retailing, and servicing. Only \$6.00 per year, 52 issues.

Fill in coupon and mail today

AIR CONDITIONING & REFRIGERATION NEWS  
450 West Fort Street, Detroit 26, Michigan

Gentlemen: Send the NEWS for one year.

☐ \$6 enclosed ☐ Bill me ☐ Bill the company

Name .....

Company .....

Street .....

City ..... Zone ..... State .....

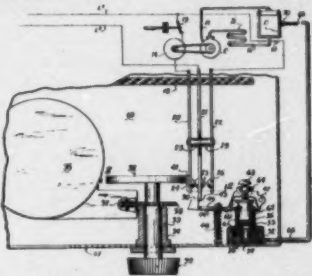
12-27-54



## PATENTS

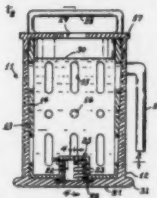
(Week of August 31)

2,587,519. BEVERAGE FREEZING AND COOLING DEVICE. Hansford D. Hurt, Arlington, Calif.



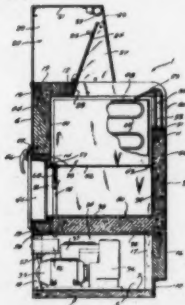
1. A beverage freezing device comprising an outer container, an inner container adapted to contain beverage to be frozen, substantially the entire external surface of said inner container being engageable in surface contact with substantially the entire inside surface of the outer container and said inner container being rotatable in said outer container, said inner container being formed with apertures in its wall, and interengaging segment threads arranged centrally on the bottom of the inner container and the bottom wall of the outer container, whereby the inner container may be secured to the bottom wall of the outer container by moving the inner container axially into the outer container in the outer container through a relatively small angle.

2,587,620. DEFROSTER CONTROL. Robert G. Baney, Columbus, Ohio, assignor to Ranco, Inc., Columbus, Ohio, a corporation of Ohio. Application Jan. 19, 1952, Serial No. 267,245. 4 Claims. (Cl. 62-4.)



1. A control mechanism for a refrigerating system comprising, an electric switch, including a switch member movable between two switching positions, a latch member movable to a position to block movement of said switch member from one of said switching positions to the other switching position, an expansible element connected with said latch member and operative to move said latch member to said position to block said movement of said switch member when said element is expanded and to cause movement of said latch member to release said switch member when said element is contracted, said element having water in a portion thereof and said portion adapted to be disposed in heat exchange relation with the evaporator of the refrigerating system to cause expansion of said element when said water is frozen and contraction of said element when the frozen water melts, and power means to move said switch member periodically from said other switching position to said one switching position.

2,587,621. REFRIGERATED DISPLAY CABINET FOR FROZEN FOOD. Harold J. Fitzgerald, Milwaukee, Wis. Application June 4, 1952, Serial No. 291,717. 3 Claims. (Cl. 62-89.5.)



1. In a display cabinet for frozen food stuffs the combination comprising a floor, side wall panels joined to said floor and one another to form an open top compartment, one of said side wall panels comprising a transparent upwardly extending inner partition, and a transparent outer partition having a portion spaced from and in front of said inner partition rising above and turning inwardly over the upper margin of said inner partition, and a rearward extension extending downwardly beneath the upper edge of said transparent inner partition and inwardly to within said compartment, and refrigerating means including cooling coils in cooling relation to the interior of said compartment.

2,587,622. DISPLAY STAND FOR FROZEN FOOD AND THE LIKE. Ralph Robbins, Jamaica, N. Y. Application March 15, 1952, Serial No. 276,773. 1 Claim. (Cl. 62-91.5.)

A display stand for frozen food and the like comprising a pair of inverted U-shaped members each of which has a longitudinal web portion and a pair of

1. In a coupling, a body member having a fluid conducting bore, one extreme end of said body member forming a generally radial surface extending inwardly from the periphery of the body member, a tube-end abutment surface adjacent said body bore and substantially in radial alignment with said generally radial end surface, said body being formed with an annular recess in said one end, sleeve means axially movable relative to a tube including a cutting edge for gripping said tube and holding the end thereof against said tube abutting surface and a forward end portion formed with a projecting lip for engaging and sealing with the walls of said recess, the minimum diameter of said sleeve means being at least as great as the diameter of said cutting edge, a clamp member adjustably connected to said body member for engaging the other end portion of said sleeve means to move said projecting lip axially relative to the tube against the body member into engagement therewith, the engagement of said body and projecting lip deforming said lip to provide a surface seal therebetween, said sleeve means including means to deform said cutting edge radially into cutting engagement with a tube in response to axial motion of said clamp means thereby gripping the tube and urging it axially toward said tube abutting surface.

## NEW PRODUCTS?

Turn to "What's New" Page for useful information on new products. Use Key No. for fastest service.

## ENGINEER WANTED

To head up Refrigeration Laboratory with growing Mid-western compressor and condensing unit manufacturer.

Apply Box A5113

AIR CONDITIONING & REFRIGERATION NEWS

450 West Fort Street, Detroit 26, Mich.

## Government Contracts

## PROCUREMENT INFORMATION

The following is a list of proposed procurements issued by the various indicated U. S. Government procurement offices. This list is compiled and made available daily on a free pick-up basis. Prospective bidders may obtain complete bid sets by a request to the purchasing officer under which the purchase is listed in this Synopsis. Be sure to identify completely the bid invitation you wish by including in your request the item description, the invitation number or reference number and the opening date.

## DEPARTMENT OF DEFENSE

It is not necessary to refer solely to the issuing office for additional data on a bid invitation issued by any of the following U. S. Army Ordnance Offices: Ordnance Tank Automotive Center; Detroit Arsenal; Frankford Arsenal; Picatinny Arsenal; Raritan Arsenal; Ordnance Ammunition Center, Joliet, Ill.; Rock Island Arsenal; Springfield Armory; Watertown Arsenal; and Watervliet Arsenal. Complete information on any purchase listed by any of these offices alone can be obtained from the Ordnance District Office nearest you. Its address is on file in your nearest Department of Commerce Field Office. Do not ask an Ordnance District Office for information on a purchase unless it is listed by one of the above-named offices.

Invitations for Bids numbers will be followed by the letter "B." Requests for proposals or quotations will be indicated in this column by the letter "Q," or, if numbered, the number will be followed by the letter "Q."

Description	Quantity	Invitation No.	Opening Date
Purchasing and Contracting Office, Building No. 4, Bolling Air Force Base, Washington 25, D. C.			
Furnish all plant, labor, and materials and doing all operations connected with the modification of	Job	(49-604-55-25)	29 Dec 54

VOQ Bldg. 8-600 including earthwork, carpentry and millwork, acoustical tile, ceramic tile work, plumbing, misc. metal work, heating and air conditioning (ductwork).

Raritan Arsenal, Metuchen, New Jersey

Belt V multiple two 22300 sets 55-161-B 10 Jan 55  
matched belts reinforced rubber cogg  
extreme low temperature and heat resistant 45% in. DC U/16 in. top width 38 degree angle.

District Engineer, Washington District, Corps of Engineers, U. S. Army, Washington, D. C.

Mechanical Ventilation in Barracks Buildings at Bolling Air Force Base, Washington, D. C. (ENG-49-080-55-26-25) 6 Jan 55

Purchasing and Contracting Office, Langley Air Force Base, Virginia

Modification of Air Conditioning Bldg. No. 122, Langley Air Force Base, Va. (44-600-55-58) 28 Dec 54

General Stores Supply Office, 700 Robbins Ave., Philadelphia 11, Pennsylvania

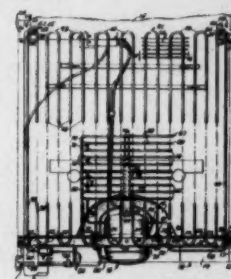
Tubing Seamless Copper, Type K, Various Purposes Hard Drawn and Soft Annealed Fed. Spec. WW-T-799A, Amend I. 15346 lbs. (155-682-55-B) 12 Jan 55

## U. S. DEPT. OF HEALTH, EDUCATION, AND WELFARE

Public Health Service, National Institutes of Health, Bethesda, Maryland  
Indicator, Temperature. 1 ea. 299 7 Jan 55

movement of the cradle and powering means thereon.

2,587,623. WIRE CONDENSER IN REFRIGERATION SYSTEM. Harry Nadler, Evansville, Ind., assignor to Seeger Refrigerator Co., St. Paul, Minn., a corporation of Minnesota. Application June 17, 1952, Serial No. 294,091. 14 Claims. (Cl. 62-117.4.)



5. A household refrigerator comprising a cabinet having an exterior metal shell provided with a rear panel, a lower condenser frame member having both of its ends secured to said shell adjacent the side walls of said cabinet, said frame member being bowed outwardly from said rear panel, a plurality of passes of tubing for receiving refrigerant carried by said frame member and forming the framework of a flue between said tubing and said rear panel, and a multiplicity of metal wires extending transversely to the passes of tubing and secured thereto in

intimate heat exchange relation, and defining a cage like flue for the upward passage of air adjacent the rear panel, a second frame member carried by said cabinet and secured to it by the same securing means, the said second frame member extending along the rear panel from each side, and having outwardly extending portions extending again into engagement with the first frame member to which the second frame member is secured centrally of said rear panel, resilient supporting means carried by said second frame member at said outwardly extending portions, a motor compressor unit carried by said resilient supporting means and an upwardly extending frame member carried by said motor compressor unit, said latter frame member carrying a multiplicity of transversely extending passes of refrigerant tubing, serving as a pre-cooler section of the condenser and located above the motor compressor inside the flue provided by said condenser to be subjected to convection air currents passing upwardly from the motor compressor unit, the said upwardly extending frame member being provided with a pair of vertically spaced apertures, and resilient U-shaped members of non-metallic composition extending around predetermined passes of said pre-cooler, and having both legs confined in said apertures by enlargements at the ends of said legs, the said pre-cooler having its passes secured in definite spaced relation to each other by a plurality of vertically extending welded wires carried by said passes and located on opposite sides of said resilient U-shaped members.

(To Be Continued)

## CLASSIFIED ADVERTISING

RATES for "Positions Wanted" \$7.50 per insertion. Limit 50 words. 15¢ per word over 50.

RATES for all other classifications \$10.00 per insertion. Limit 50 words. 20¢ per word over 50.

ADVERTISEMENTS set in usual classified style. Box addresses count as five words, other address by actual word count. Please send payment with order.

## POSITIONS WANTED

AIR CONDITIONING and refrigeration engineer with 20 years' trade experience—BS in mechanical engineering—registered engineer—Carrier trained experience includes sales, engineering, system design, construction, contracting, own business, servicing, dealer organization, both in foreign and domestic field in unitary and central system. BOX A5124, Air Conditioning & Refrigeration News.

HEATING, REFRIGERATION and air conditioning executive, qualified and experienced in all phases from design to field supervision and trouble-shooting, residential to industrial, 35 yrs. old, wishes to relocate with family to Southern U. S. Ideal set-up for company seeking to expand into above fields with minimum investment. BOX A5125, Air Conditioning & Refrigeration News.

## POSITIONS AVAILABLE

MANUFACTURER'S REPRESENTATIVE: Some territories open—to handle the most complete line of commercial refrigerators in the industry. Restaurant refrigerators, walk-in coolers and freezers, salad display cases, beverage coolers, freezers, display cases, a full line of self-service refrigerators and super market equipment. FOGEL REFRIGERATOR COMPANY, 5400 Eadom Street, Philadelphia 37, Pa.

ATTRACTIVE OPENING with Detroit jobber. Prefer younger man 25 to 40. Must have counter experience. Position offers liberal rewards with a real opportunity to learn and grow. Your opportunity to join a growing organization. LEE EQUIPMENT CO., 4721 Joy Rd., Detroit 4, Mich.

WANTED: SALES engineer by nationally known manufacturer of refrigeration and air conditioning controls. Must be free to travel and willing to relocate. Give detailed summary of education and experience in first letter. All replies confidential. Address BOX A5104, Air Conditioning & Refrigeration News.

MIDWESTERN NATIONAL manufacturer of commercial refrigeration and air conditioning equipment requires an aggressive executive sales engineer to contact leading wholesalers and equipment manufacturers, also capable of developing new accounts. Ambitious man with the right educational and practical background and personality will find this a unique opportunity to grow with this company and to develop rapidly into a managerial position with commensurate rewards. In reply, please give resume of your qualifications, stating age, educational background, work experience, and past earnings. All replies held in strict confidence. BOX A5122, Air Conditioning & Refrigeration News.

OUR 1955 outlook is such we need to add one or two good district sales managers. If one of the territories is not near your present home, it will pay you to consider moving because the proposition we have to offer is undoubtedly one of the best in our industry. Our products are commercial refrigerators, distributed nationally and abroad. We have basic distribution in the territories to be assigned. If your earnings are under \$15,000 and you have reached what you consider your top potential, you probably shouldn't answer this advertisement. We can guarantee you minimum \$10,000 earnings your first year and if you are the man for the job, you should easily move this up to the \$25,000 bracket. A brief story on your experience, present connection, etc., will lead to a personal, confidential interview with a Home Office executive. BOX A5123, Air Conditioning & Refrigeration News.

## EQUIPMENT FOR SALE

ATTENTION SERVICEMEN: Save 25 to 50% on your refrigeration parts. Send for our catalog of values today. Here is only one of our money saving offers. 1 1/2" O.D. copper connections x 14 1/2" overall vibration eliminators. \$4.65 each. Lots of 10, \$4.00 each. WALTER W. STARR REFRIGERATION SUPPLIES, 2833 Lincoln Avenue, Chicago 12, Illinois.

## BUSINESS OPPORTUNITIES

REPRESENTATIVES WANTED: All steel sectional shelving for food markets, variety stores, etc. Knocked-down construction shipped in cartons, quickly erected, no skill required. Make any combination of shelving for Gondola sizes. Mass produced with almost a one million dollar investment in automatic machinery. We have the line designed and priced right. Territories closing rapidly, act quickly, write, wire, or call PROCTOR SHELVING DIVISION, FOGEL REFRIGERATOR COMPANY, 5400 Eadom Street, Philadelphia 37, Pa.



## Program for the NARDA Meeting--

(Concluded from Page 1, Col. 2)

keting for Crosley-Bendix, who will tell the dealer how to "Chart Your Tomorrow"; David Hopkins of CBS-Columbia, who will recount successful sales techniques; Ed Hegarty of Westinghouse, who will speak at the Tuesday breakfast; and W. L. Parkinson, product service manager, G-E Electronics Div., who is to tell of the factory's and distributor's role in service.

Lead-off speaker in the Tuesday afternoon television session will be M. L. Finneburgh of The Finney Co.

### DISTRIBUTORS TAKE PART IN PROGRAM

Several distributors are taking part in the program also, including Lester E. Barrett, president of Barrett Electrical Supply Co., St. Louis, and the National Association of Electrical Distributors; Gerald B. Peterson of W. W. Grainger Co. of Chicago; and Edward A. Stanley of Centronics, Inc., Owensboro, Ky.

Lynn A. Williams, nationally recognized authority on fair trade, will tell the dealers what role they can reasonably expect fair trade to play in their industry.

Also on the program are Edward Mack, Jr., of Mack & Parker, group insurance specialist; Thornton W. Snead, Sr., of Tallman, Robbins & Co., the firm that is handling NARDA's uniform bookkeeping system; and Bernard Lefkowitz of Bergman & Lefkowitz, who originated the creditors' group life insurance program NARDA is pioneering.

Frank Moch, president of the National Alliance of Television and Electronic Service Associations, will discuss ways in which the dealer and independent service-man can cooperate more closely.

Clint Walter of the RCA Service Co. will moderate the Sunday television service panel and give a summary of the findings of the panel group on how to develop more profitable service business in greater volume. Several leaders of local and state service and dealer-and-service organizations are expected to participate in the panel discussions.

Laurence Wray, editor of *Electrical Merchandising*, will head the Sunday panel on executive development and present a summary of the panel's conclusions during the regular convention, too.

### DEALERS ON PANEL

Dealers on the program will include:

K. G. Gillespie of Jenkins Music Co., Kansas City, will chairman the panel discussion on advertising and sales promotion and present a summary of the findings to the full convention; Al Robertson, Oklahoma City retailer; George Johnston of Minneapolis who will review techniques for selling against discount competition; Bob Shelley of Atlanta who will counsel dealers on methods of analyzing their businesses; George Pazik of Milwaukee who will discuss the role kitchens can play in high-volume, high-profit business development.

Also, Mort Farr of Upper Darby, Pa., NARDA board chairman, who will handle the salespower panel and review its findings and also discuss prospects for color TV from the dealer's viewpoint; Dick Palmer of Palmer Tire Co., Macon, Ga., who will tell something of

the techniques as well as the need for retailer profits; and W. E. Galbreath of House of Television, Houston, who will show his method of converting television rentals into sales.

H. B. Price, Jr., NARDA president, who will have general charge of the convention, will open it with the annual president's address, preside at the annual banquet, and will deliver the convention's closing remarks.

A. W. Bernsohn, NARDA managing director, will discuss the association's plans for National Radio & Television Week.

### EXPECT 500 TO ATTEND

At the pace registrations are coming in, it appears that there will be a minimum of 500 dealers registered for the event by the time of the convention, NARDA said.

Highlight of the annual affair is the banquet in the Grand Ballroom of the Conrad Hilton. Several entertainers will perform and leading dealers from throughout the country will be honored there.

This will also be the occasion for the presentation of the award to the outstanding retail appliance salesman of the year, a \$500 cash award from the *Ladies Home Journal*. Presentation will be made by James A. Shellenberger of that organization.

Banquet speaker will be Dr. R. C. S. Young, director of admissions, University of Georgia. He is the famed "Scotty" Young who served the Treasury Department so effectively in bolstering the sale of bonds and has won an international reputation as a speaker.

A special women's program will be integrated with the national convention under the supervision of DeVera Bernsohn. She is arranging a luncheon for the ladies on Monday. At that time Don Gabbert, NARDA vice president, will address the women on "How You Can Help Your Husband in the Appliance Business."

The annual cocktail reception will be held in the Lower Tower Suite of the Conrad Hilton from 5 to 7 p.m., Sunday, Jan. 9.

## Philco Dealers--

(Concluded from Page 1, Col. 3)

"We feel it essential that manufacturers have some control over areas to be served by various distributors, in order to determine production schedules that may conform to market requirements. Without territorial control this is impossible. We hope that this established practice of the major appliance industry will not be disturbed."

## 'Wet' Air Conditioning--

(Concluded from Page 1, Col. 2)

striking changes in the design of such equipment as boilers, baseboards, and fin-tube type radiators. Such new products, he said, "could revolutionize year-round air conditioning systems."

It is also rumored that at least one manufacturer is readying a "sensational" new development in wet heat air conditioning equipment, thought by some to be a new type of baseboard unit, for a first public showing at the Heating & Ventilating Exposition Jan. 24-28 in Philadelphia.

### Addition Air Conditioned

LIBERTY, S. C.—Daniel Construction Co. of Greenville has begun construction of an air conditioned addition to the Alexander Smith, Inc., velvet carpet weaving and finishing plant in Liberty.

The expansion project will add 40,000 sq. ft. to the existing 52,000-sq. ft. structure.

## Deepfreeze Names New Advertising Agency

NORTH CHICAGO, Ill.—Engagement of Brooke, Smith, French & Dorrance, Inc., one of the nation's top advertising agencies, to handle the Deepfreeze account, effective Jan. 1, heralds the appliance manufacturer's stepped-up advertising program for 1955, according to F. F. Duggan, vice president and general manager of Deepfreeze Appliance Div., Motor Products Corp. here.

The Detroit agency, succeeding Roache, Williams & Cleary, Inc., Chicago concern which handled the account four years, will have available for advertising and sales promotion nearly \$2,500,000 in 1955, Duggan said. The appropriation is approximately double the 1954 expenditure.

"The finest line of home freezers and refrigerators in our history, a top distributor and dealer sales organization, company sales know-how, a big advertising and sales promotion budget, and a leading agency will be important factors," Duggan said, "in Deepfreeze's aggressive steps in 1955 to broaden our sales."

Walter C. Ayers, executive vice president, will take charge of the Deepfreeze account. The Detroit agency, which also has complete organizations in New York City and San Francisco, was founded in 1913, and has handled various appliance accounts.

(Concluded from Page 1, Col. 5)

9:30 a.m.—First technical session, E. F. Snyder, Jr., chairman. "Ventilation Requirements for Removal of Tobacco Smoke," by C. P. Yaglou.

"A Rapid General Purpose Centrifuge Sedimentation Method for Measurement of Particle Size Distribution," by K. T. Whitby.

"Evaluation of Panel Type Air Cleaners by Means of Atmospheric Dust," by H. A. Endres, W. T. Van Orman, and R. P. Carter, Jr.

12:15 p.m.—Welcome luncheon. 6 p.m.—Delaware Valley, U.S.A. Frolic, buffet supper, show, dancing (at Benjamin Franklin hotel).

### TUESDAY, JAN. 25

9 a.m.—Registration.

9:30 a.m.—Second technical session, R. S. Dill, chairman.

"Preliminary Studies of Heat Removal by Cooled Ceiling Panel," by L. F. Schutrum, John Vouris, and T. C. Min.

"Measurement of Angular Emissivity," by A. Umur, G. V. Parmelee, and L. F. Schutrum.

"Circuit Analysis Applied to Load Estimating, Phase II," by H. B. Nottage and G. V. Parmelee.

### WEDNESDAY, JAN. 26

9 a.m.—Registration.

9:30 a.m.—Third technical session, Prof. E. R. Queer, chairman.

"Gas Is an Important Factor In the Thermal Conductivity of Most

Insulating Materials, Part II," by R. M. Lander.

"Selection of Outside Design Temperature for Heat Load Estimation," by M. L. Ghai and R. Sundaram.

"Study of Liquid-to-Liquid Heat Transfer in Hot Water Heaters," by F. W. Hutchinson, L. J. La Tart, and N. W. Smith.

"Cloudless Day Radiation," by R. C. Jordan and J. L. Threlkeld. 7 p.m.—Annual banquet, Dr. Milton Eisenhower, speaker.

### THURSDAY, JAN. 27

9 a.m.—Registration.

9:30 a.m.—Fourth technical session, Prof. Linn Helander, chairman.

"Paths of Horizontally Projected Heated and Chilled Air Jets," by Alfred Koestel.

"Air Conditioning of Multi-Room Buildings," by R. W. Waterfall.

"Effects of Weather Conditions on Cooling Unit Operation in a Residence," by H. T. Gilkey and S. Konzo.

### Cheraw Cotton Cooled

CHERAW, S. C.—The Cheraw Cotton Mills has been completely modernized at a cost of more than \$650,000, with one of the improvements being installation of a Bahnson central station air conditioning system to service the spinning and winding areas.



CONSULTING ENGINEER: HARRY H. BOND  
CONTRACTOR: FREDERICK RAFF CO.



At the new Bishop's Corner shopping center, West Hartford, Conn., every provision has been made for customer and employee comfort. In keeping with the keynote on quality, over 600 capacity-tons of BUSH air conditioning and heating products were selected.

Prominent among Bush equipment installed are Air Handling Units in both vertical and horizontal models. Advantages of these versatile central station units are many: rigid angle iron framing and self-aligning ball bearings assure long life, eliminate vibration and guarantee quiet operation.

All units have built-in by-pass sections to provide 100% air by-pass when required. Centrifugal type fans, mounted on a common solid steel shaft, are statically and dynamically balanced for quiet, efficient operation. Matching housing with scroll for each fan insures smooth air flow.

Capacities range from 800 to 21,600 CFM, with nominal ratings from 3 to 65 tons. Face and by-pass dampers, humidifiers and both throw-away and cleanable type filters are available for all units.

Catalog 710A, free on request, contains complete specifications.



BUSH MANUFACTURING COMPANY  
WEST HARTFORD 10, CONNECTICUT

## ENGINEER

Compressor Design Engineer by large midwest manufacturer for compressor research program. Prefer Mechanical Engineering graduate, 30 to 45 years of age, with experience in designing and developing small refrigeration compressors and/or air compressors.

All replies will be treated confidentially. Please give full particulars in reply.

Box A5115, Air Conditioning & Refrigeration News